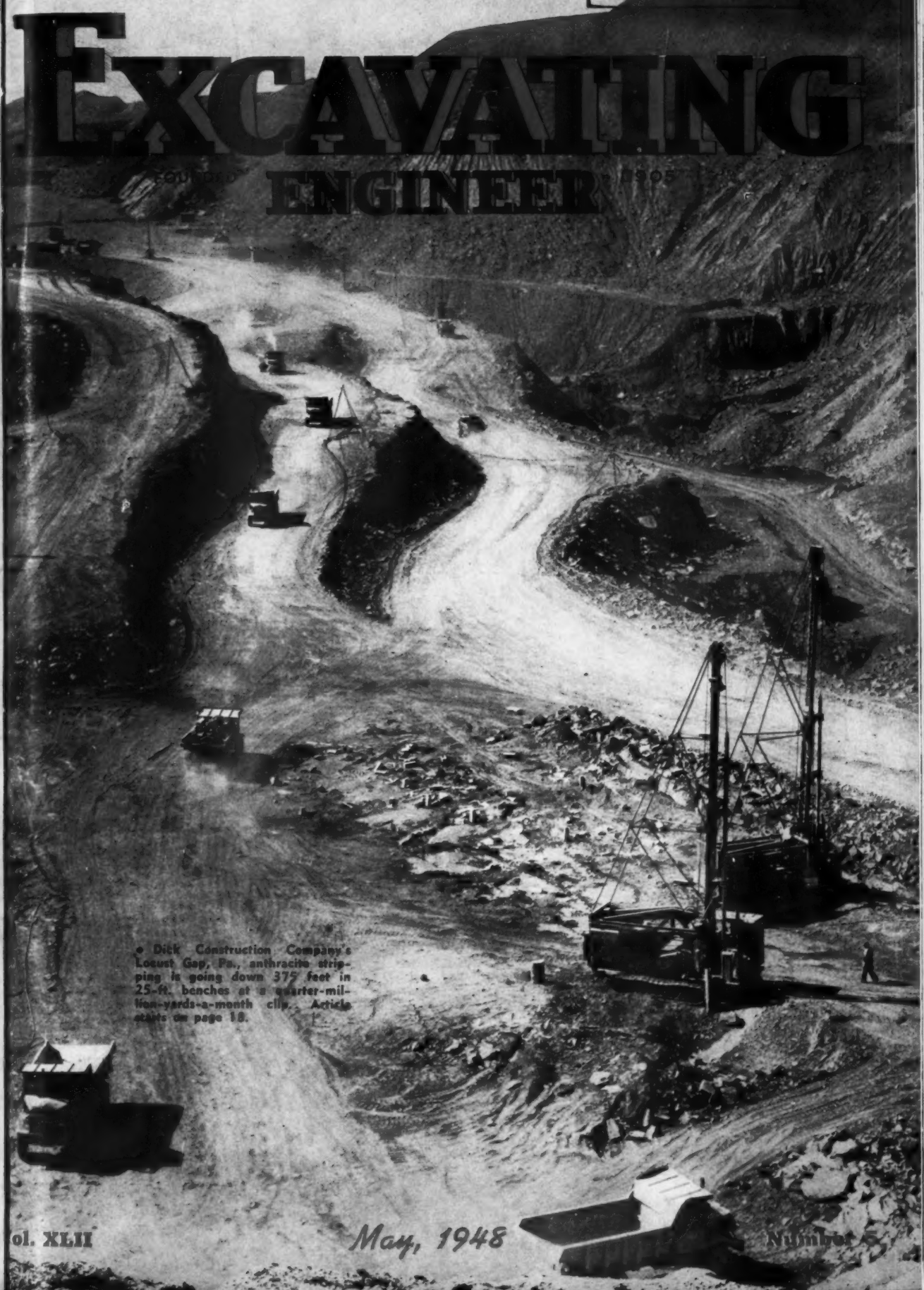
TRANSPORTATION

EXCAVATING ENGINEER

FOUNDED 1905



• Dick Construction Company's Locust Gap, Pa., anthracite stripping is going down 375 feet in 25-ft. benches at a quarter-million-yards-a-month clip. Article starts on page 18.

Vol. XLII May, 1948 Number 5

619,000,000

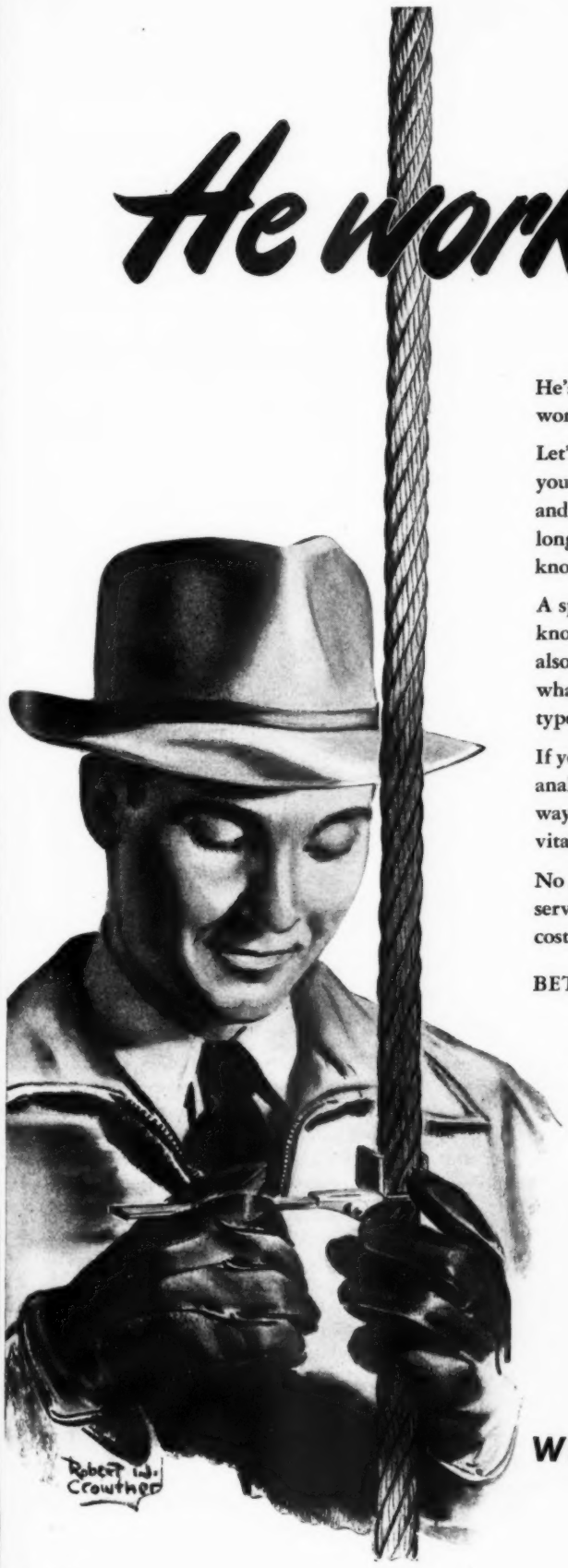
tons of bituminous coal and 57,000,000 tons of anthracite were produced in 1947 — and about a fourth of the 676,000,000 ton total was mined by stripping. The increasing emphasis on strip mining to recover coal is expected to make this percentage grow in 1948, and helping it grow will be two machines whose great range and capacity, strength, simplicity and balance make them "naturals" for this type of work: the Bucyrus-Erie 1050-B stripping shovel and the 1150-B walking dragline. Together, these "years ahead" machines have extended the frontiers of strip mining by recovering coal at greater depths and with greater economy than ever before possible.

BUCYRUS-ERIE COMPANY • SO. MILWAUKEE, WISCONSIN

47L47C

TRANSPORTATION LIBRARY

He works for you



He's a field engineer specializing in wire-rope problems. He works for Bethlehem, but he also works for you.

Let's say you operate machinery that uses wire rope. Maybe you haven't been getting maximum service from your lines and don't even realize it. Maybe they haven't been lasting as long as they should, and it's costing you money, whether you know it or not.

A spot like that is where the Bethlehem man can help. He knows wire rope, all the many sizes and types and grades. He also knows the kind of machines you use—how they work, what they do; why they need a certain lay of rope, a certain type of core.

If you'll ask him to study your needs, he'll give you a prompt analysis and recommend the proper ropes. He'll show you ways to get the most out of them. Both are points that have a vital bearing on rope life and efficiency.

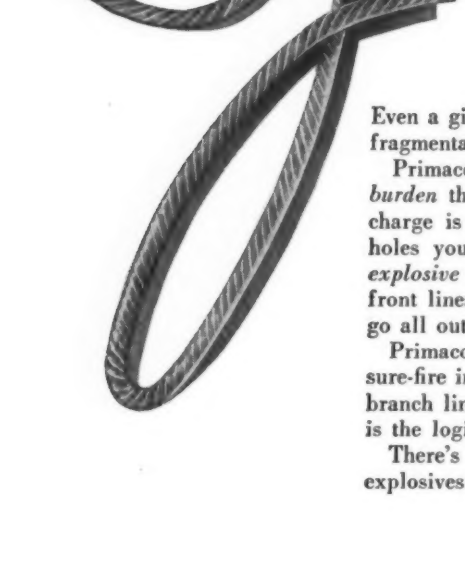
No matter where you are, the Bethlehem man is glad to be of service to you. Call him in whenever you need him... doesn't cost you a penny.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by
Bethlehem Pacific Coast Steel Corporation
Export Distributor: Bethlehem Steel Export Corporation

When you think WIRE ROPE
... think BETHLEHEM

Photograph courtesy The Philadelphia and Reading Coal and Iron Company



requires good BLASTING

Even a giant bucket like this one won't fill up every time unless you have good fragmentation — the kind you get when you shoot with Primacord.

Primacord develops a hard-working combination of *full power* and *relief of burden* that results in this better fragmentation. *Full power* — because every charge is loaded in *direct contact* with Primacord . . . no matter how many holes you have, or how deep they go, *every* cartridge is detonated *at peak explosive power. Relief of burden* — because you can plan your shots so that front lines go a split-second before succeeding ones. Together, these two forces go all out to *boost* yardage and *reduce* costs.

Primacord has other advantages too. Packed on easy-to-handle spools, it's sure-fire in all kinds of weather. Hook-ups are made by simply tieing trunk and branch lines together with half hitches. Insensitive to stray currents, Primacord is the logical detonator to use near high voltage electrical equipment.

There's a grade of Primacord to meet every blasting condition. Ask your explosives supplier about it — or write us direct. P-3

THE ENSIGN-BICKFORD CO., SIMSBURY, CONN.

Also ENSIGN-BICKFORD Safety Fuse • Since 1836

EXCAVATING ENGINEER

FOUNDED 1905

Contents

Vol. XLII No. 5 **May, 1948**

Fifteen Million Yards a Year 18

Describing three of the operations of A. E. Dick Contracting Company and Dick Construction Company which together make one of the largest coal stripping contracting firms in the world.

Service Is Their Secret—by A. E. Holden 24

Typical successful local contractors are the Wyatt brothers of Angola, Indiana. Their profitable and highly varied business of today has grown in four years from an operation involving a single truck loaded by hand.

Planes in the Contractor's Battle—by Robert F. Smith 26

Illustrated by an ever-growing list of contractors' daily uses of aircraft, the difficulties presented by time and distance are regularly being overcome by air-minded construction men.

Obituaries: C. H. Locher 27
C. J. Crozer 28

Equipment You Ought to Know About 30

Shots from the Firing Line 38

Newark's Airport-Seaport to Get $61 Million Rework ..38
U. S. Road Expenditures Up 38
Predict Inability to Match Federal Funds in Nebraska 38
Reclamation Offers Summer Posts to 350 Students 38
Start Work on Russian Dam .42
Name Region 5 Director 42
Construction Up 28 per cent in First Two Months 42
New Oklahoma Chairman 44
Kansas Must Find Extra Road Funds Says Governor 44
New Kentucky Appointments 48
Place River Silt-Sand for new Refining Site 48
Right-Hand Driving Now Universal in Americas 48
New AGC Research Unit 50
PRA Survey Shows Rapid Increase in Truck Traffic ...52
New AGC Head Sees Record Activity in 1948 52
Nebraska's $31 Million Road Program "Too Small" 57
Accidents Materially Less on Limited Access Roads 57

Not in the Contract 54

Notes from the Manufacturers 62

New Trade Literature 64

May Advertisers

American Road Builders Assoc. 8
Allis-Chalmers Mfg. Co. 36-37
American Steel & Wire Co. 55
American Steel Dredge Co., Inc. 51, 61

Baker Manufacturing Co. 45
Bethlehem Steel Company 1
Blaw-Knox Company 42
Bucyrus-Erie Company ..... 2nd Cover, 9, 17, 60

Colorado Fuel & Iron Corp., The, Wickwire Spencer Steel Div. . 4
Columbia Steel Company 55
Cooper-Bessemer Corp., The ...14

Detroit-Diesel Engine Division, General Motors Corp. 46-47

Ensign-Bickford Company, The . 2
Erie Steel Construction Co. 52
Euclid Road Machinery Co., The 12-13

For Sale (Classified) 63

Gatke Corporation 44
General Electric Company 16
General Motors Corp., Detroit Diesel Engine Division 46-47
General Tire & Rubber Co., The 43

Harnischfeger Corporation ..11, 49
Hayward Company, The 59
Hercules Powder Company 4th Cover
Hough Company, The Frank G. 39
Hyster Company 15

International Harvester Co. .32-33

John Company, C. R. 61
Johnson Company, The C. S. .40-41
Jones & Laughlin Steel Corp. ...29

Koehring Company 40-41

Le Roi Company 35
Le Tourneau, Inc., R. G. 6-7

Moon Manufacturing Company .58

Northwest Engineering Company 5

Osgood Company, The 53
Owen Bucket Company, The 62

Page Engineering Company 10
Phoenix Products Company ...60
Preformed Wire Rope Information Bureau .....3rd Cover

Rogers Brothers Corporation 56

Sauerman Brothers, Inc. 57
Southworth Tractor & Machinery Co., Inc., T. 48
Standard Oil of California 31
Stulz-Sickles Company 59

United States Steel 55

Wayne Crane Division, American Steel Dredge Co., Inc. 51
Wellman Engineering Co., The .50
White Manufacturing Company 58
Wickwire Spencer Steel Div., The Colorado Fuel & Iron Corp. .. 4

Published Monthly by
THE EXCAVATING ENGINEER PUBLISHING COMPANY
South Milwaukee, Wisconsin, U. S. A.

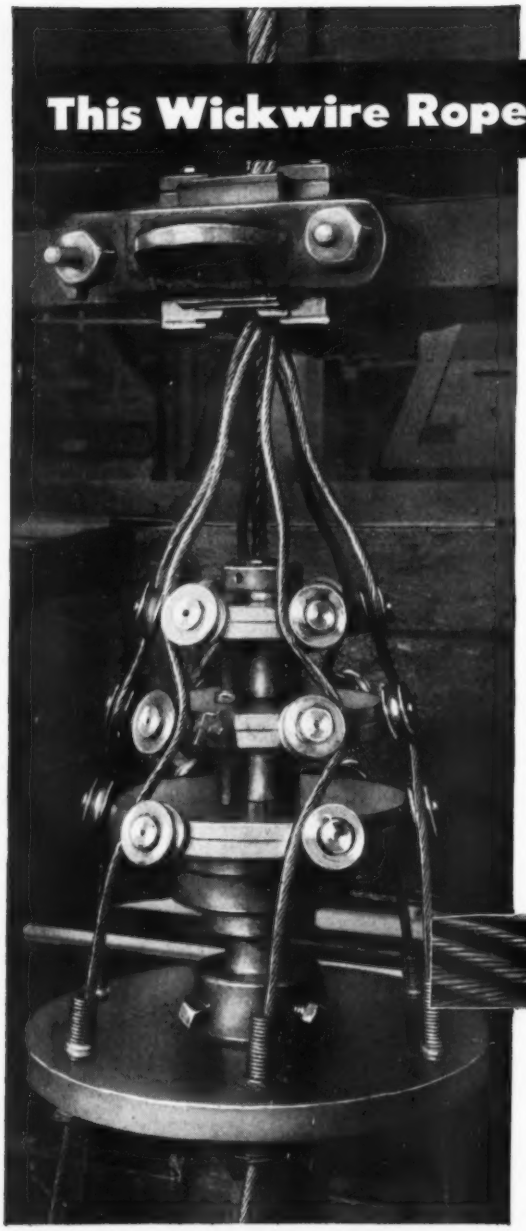
E. M. HEUSTON, Publisher — P. H. WOODS, Editor
D. B. REED, JR., Manager — M. B. JAEGER, Associate Editor
M. J. BARGENQUEST, Sales Manager — E. W. ARNDT, Art Editor
J. C. STODOLA, Assistant Editor

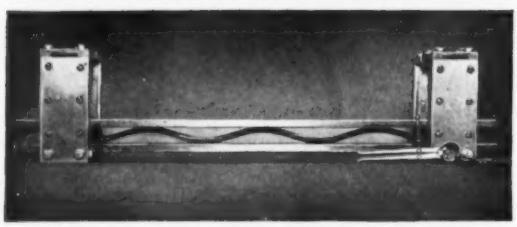
Subscription (payable in advance): 25 cents per copy, $2.50 a year: Canada foreign, subject to publication policy, $3.50 per year. Special subscription: written request on company letterhead this publication will be sent free of to companies, executives and supervisors engaged actively in excavating.

Member Controlled Circulation Audit

COPYRIGHT 1948 BY THE EXCAVATING ENGINEER PUBLISHING COMPANY

This Wickwire Rope Gets a Permanent Wave





Passing strands of Wickwire Rope through a special roller head causes them to set in a wave-like pattern. The result is WISSCOLAY *Pre*formed—a rope that not only lasts longer than non-preformed rope, but is kink-resistant; easier to cut, splice and install, and safer to handle.

Before any order of WISSCOLAY *Pre*formed is run off, samples are subjected to several tests—most important of which is the Strand Helix Test. Individual strands are placed between the plates of the testing apparatus and checked with a micrometer. These tests are made by inspectors whose approval demands that the helix diameter be controlled within the closest of tolerances in meeting the specified standard.

This and countless other tough tests, coupled with over 125 years of wire-working know-how, make Wickwire Rope the logical choice of rope users who demand the utmost in performance, safety and long life.

Wickwire Distributors and Wire Rope Engineers in key cities everywhere are ready to help solve your wire rope problems and to provide prompt delivery of the rope you need. Wickwire Rope is available in all sizes and constructions—both regular lay and WISSCOLAY *Pre*formed.

THIS 82-PAGE BOOK ON WIRE ROPE IS FREE. WRITE FOR YOUR COPY TODAY!

Thousands of wire rope users have found that the information packed in the pages of "Know Your Ropes" has made their work easier. It's full of suggestions on proper selection, application and usage of wire rope. It's easy-to-read and profusely illustrated. For your free copy, write—Wire Rope Sales Office, Wickwire Spencer Steel, Palmer, Massachusetts.

WICKWIRE ROPE

CF&I & SUBSIDIARIES

A PRODUCT OF THE WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL AND IRON CORPORATION

WIRE ROPE SALES OFFICE AND PLANT—Palmer, Mass. **EXECUTIVE OFFICE**—500 Fifth Avenue, New York 18, N. Y.

SALES OFFICES—Abilene (Tex.) • Boston • Buffalo • Chattanooga • Chicago • Denver • Detroit • Emlenton (Pa.) • Fort Worth • Houston • New York • Philadelphia • Tulsa

PACIFIC COAST SUBSIDIARY—The California Wire Cloth Corporation, Oakland 6, California

THE KEY TO PROFIT

You can't afford anything but the best for the heart of the job!

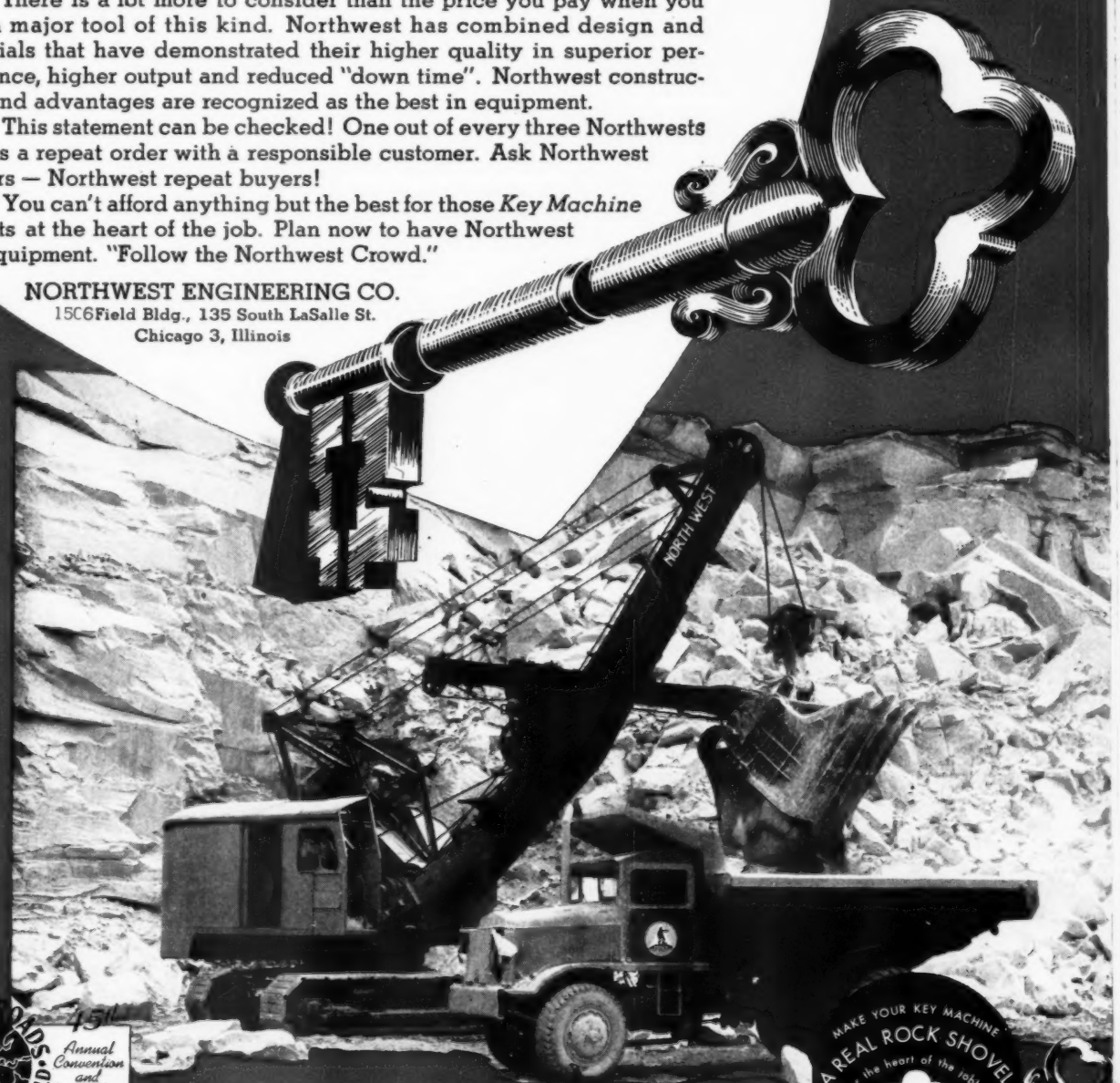
A power shovel is a major tool — a *Key Machine!* It is the equipment that *earns the money* on your earth-moving or rock jobs. If your shovel is "down" your job is "down". It can be a colossal headache to you — or the key to profit!

There is a lot more to consider than the price you pay when you buy a major tool of this kind. Northwest has combined design and materials that have demonstrated their higher quality in superior performance, higher output and reduced "down time". Northwest construction and advantages are recognized as the best in equipment.

This statement can be checked! One out of every three Northwests sold is a repeat order with a responsible customer. Ask Northwest owners — Northwest repeat buyers!

You can't afford anything but the best for those *Key Machine* spots at the heart of the job. Plan now to have Northwest equipment. "Follow the Northwest Crowd."

NORTHWEST ENGINEERING CO.
1506 Field Bldg., 135 South LaSalle St.
Chicago 3, Illinois



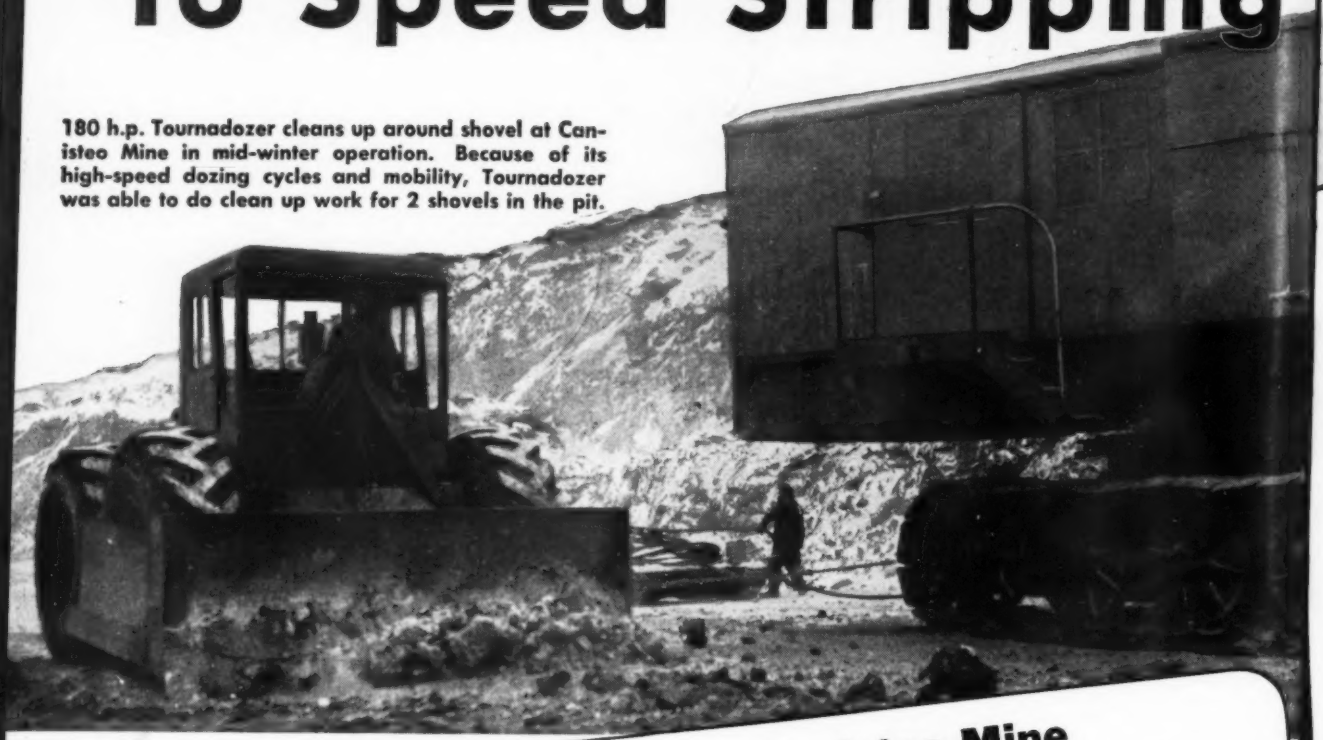
BETTER ROADS · BETTER WORLD · 45th Annual Convention and Road Show
SOLDIER FIELD CHICAGO
JULY 16-24, 1948

MAKE YOUR KEY MACHINE A REAL ROCK SHOVEL
For the heart of the job!
PROFIT

NORTHWEST

SHOVELS • CRANES • DRAGLINES • PULLSHOVELS

Cleveland Cliffs to Speed Stripping



180 h.p. Tournadozer cleans up around shovel at Canisteo Mine in mid-winter operation. Because of its high-speed dozing cycles and mobility, Tournadozer was able to do clean up work for 2 shovels in the pit.

Dozing over edge of dump, Tournadozer big air-brakes stop it instantly . . . operator simply moves gear selector lever to get high-speed reverse that cuts "deadhead" return time to a minimum. With four speeds to 15 m.p.h. forward or reverse, Tournadozer gets around to do more jobs . . . gets jobs done faster.

Canisteo Mine

At Coleraine, Minn., the Cleveland Cliffs Iron Company uses a high-speed rubber-tired C Tournadozer to strip sand, clay loam from iron deposits in its Canisteo Mine. Equipped with a cab, the Tournadozer was able to work through the winter in near zero temperatures . . . doubled as an efficient snow remover . . . now assists in spring mining.

Cleans up around 2 shovels

Tournadozer kept spillage cleaned up around 2 big shovels . . . in spare time traveled ¾ miles up 6 to 8% grades to spoil pile . . . dozed truck-dumped dirt over edge of spoil bank and leveled dump . . . handled other odd jobs requiring dozer service.

Foreman likes its maneuverability

Joe Schrape, General Foreman at the Canisteo Mine, sums up the high-speed versatility of the C Tournadozer when he says, "Its ability to get around can't be beat"

Tournadozer—Trade

LeTOURNEAU LET EQUIPMENT

See your Le Tourneau Distributor NOW for complete information

uses 2 TOURNADOZERS on *Iron Range*

Holman Mine

The Cleveland Cliffs Iron Company is also using another 180 h.p. C Tournadozer for stripping at its Holman Mine at Taconite, Minn. During the winter this Tournadozer worked with the big shovels in stripping overburden in preparation for spring iron-ore mining.

Doubles as a hauling unit

In addition to light stripping, cleaning up around shovels, wash plant, and leveling conveyor sites, Tournadozer was also used as fast, powerful hauling unit for a flat-bed trailer to haul-in conveyor sections three miles to new location. Tournadozer's 4-wheel drive plus giant low-pressure rubber tires provide ample power and traction for towing such loads at high speeds to scattered sites.

W. A. Pakkala, Superintendent, who also used Tournadozer in pit, on dump, around concentrators, and as a grader to maintain haul roads, says Tournadozer gives a "remarkable saving in travel time . . . it's especially good for scattered jobs".

Here, this high-speed, versatile Tournadozer is used to provide pulling power for a flatbed trailer. In addition to travel over snow or ice covered roads, Tournadozer on rubber lets you make 15 m.p.h. cross country moves from one pit to another.

Tournadozer cleaned up around concentrator and shovels following a heavy snow. Broad, correctly curved blade moves large load . . . constant-mesh transmission keeps it rolling without loss of momentum.

LETOURNEAU PEORIA, ILLINOIS — HIGH-SPEED RUBBER-TIRED — TOURNADOZERS

IT'S RUBBER THAT PUTS THE ACTION IN TRACTION

Why YOU should PLAN TO COME TO THE ROAD SHOW

BETTER ROADS FOR A BETTER WORLD

45th Annual Convention and Road Show
SOLDIER FIELD
CHICAGO
JULY 16-24, 1948

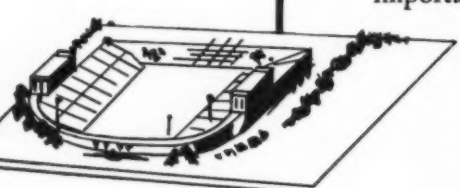
Over 5000 pieces of equipment!

Imagine over 30 acres — a small farm—filled with construction machinery... some of it operating... some of it never before shown. Here is a practical picture backed with new information, new data, that shows the way to better performance and increased efficiency.

●

IT IS THE MOST DRAMATIC SPECTACLE IN CONSTRUCTION HISTORY — A MUST FOR EVERY CONSTRUCTION MAN.

●



THERE is a $1,500,000,000 road program for 1948 — the greatest in construction history. This stupendous figure represents the largest appropriation ever made for construction of highways and airports. By seeing this machinery exhibited at the Road Show you have the opportunity to get ready for your part in this greatest construction program of all time. If for no other reason than this, you should attend the Road Show.

State, county and municipal governments will require approximately $240,000,000 for equipment for maintenance work in 1948. Another $265,000,000 worth of equipment will be needed for new construction. It is conservatively estimated that an additional $150,000,000 for new equipment will be required to bring construction equipment inventories up to normal.

TECHNICAL SESSIONS YOU CAN'T AFFORD TO MISS

There will be discussions on highway engineering, grade separations, airport construction, concrete and bituminous highway construction, soil compaction, highway terminals, the contract system and day labor, tar soil stabilization, cement soil stabilization, highway safety, control of city pavements, snow removal, highway maintenance, elevated and depressed highways, express highways, radio communications in highway control, weights and sizes of vehicles, bridge construction practice, property assessment for highways, public relations, legal affairs, highway finance, gross weights on highways and on many other topics that are so much a part of your daily work. Bring yourself up-to-date on the latest phases of these important subjects.

EVERY DAY AN OUTSTANDING DAY!

Friday, July 16	Distributors Day
Saturday, July 17	International Day
Sunday, July 18	Educators and ARBA Student Chapters Day
Monday, July 19	Associated General Contractors Day
Tuesday, July 20	ARBA Contractors Day
Wednesday, July 21	County Day
Thursday, July 22	Municipal and Airport Day
Friday, July 23	All States Day
Saturday, July 24	Chicago Day

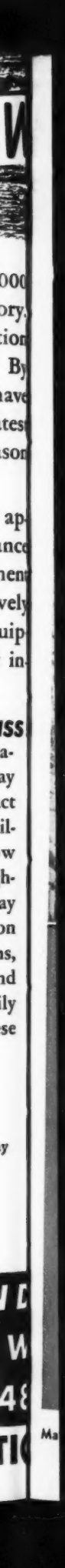
45th

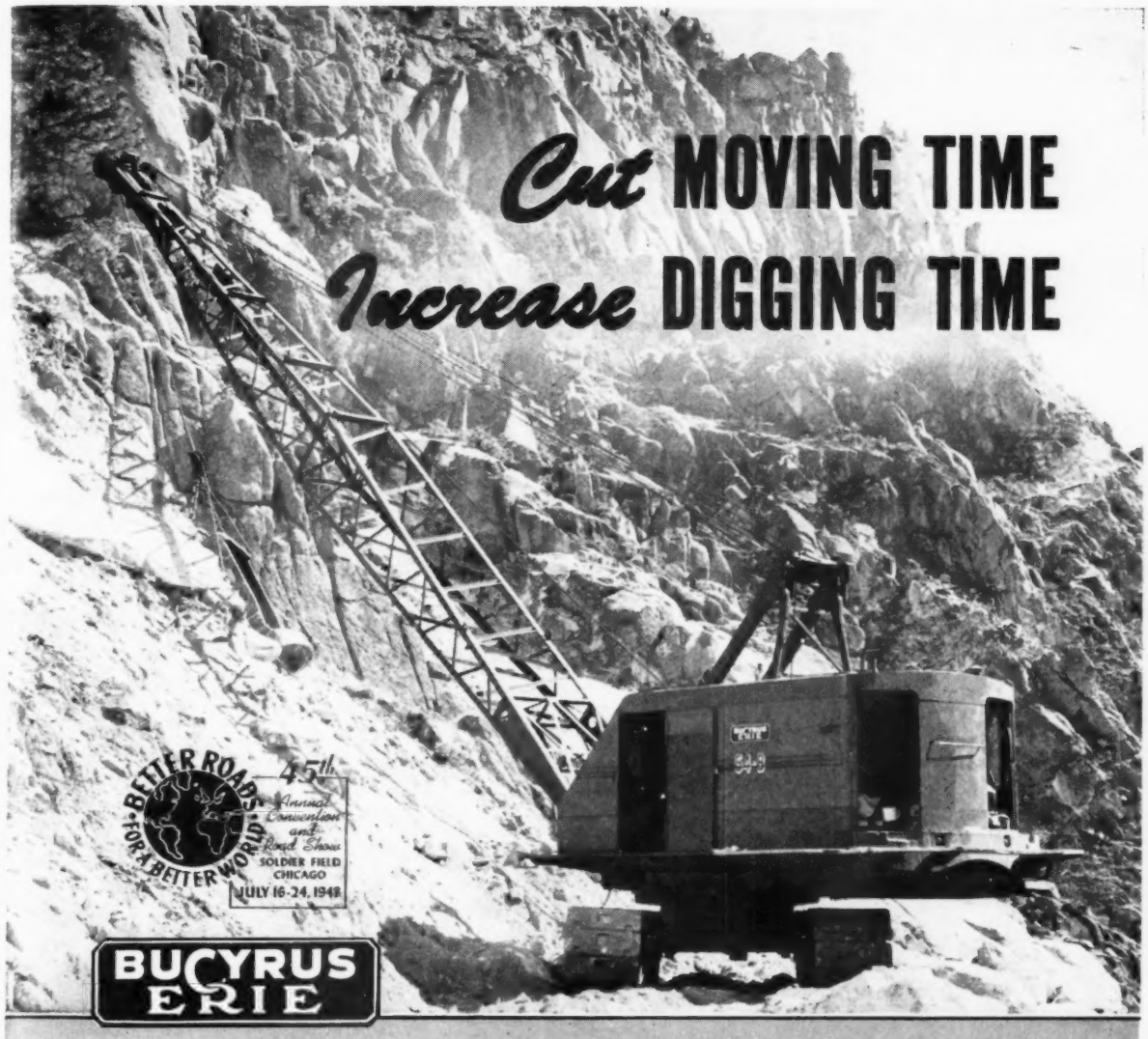
ANNUAL CONVENTION AND INTERNATIONAL ROAD SHOW

SOLDIER FIELD • JULY 16-24, 1948

AMERICAN ROAD BUILDERS ASSOCIATION

International Building, Washington 4, D. C., U. S. A.





Unusual maneuverability and stability are Bucyrus-Erie features that enable you to dig more profits out of excavating jobs. Close-fitting, heat-treated treads and sure-footed mountings for powerful traction permit fast moves on the job, easy climbing of grades. Bucyrus-Eries are fully mobile, easy to steer in sharp or gradual turns, can maneuver into close quarters and continue to deliver big output.

Efficient weight distribution for a low center of gravity plus widespread belts having a large bearing area are responsible for the superior stability of Bucyrus-Erie 3/8- to 2½-cu. yd. machines. They can take the whip of fast operation, while the big ground-contact area enables Bucyrus-Eries to move safely over soft, loose, or uneven ground.

The balanced design of Bucyrus-Eries is the result of 67 years' experience in building the best in excavating equipment. Let your Bucyrus-Erie distributor give you more details on their outstanding performance.

BUCYRUS-ERIE COMPANY
SOUTH MILWAUKEE • WISCONSIN

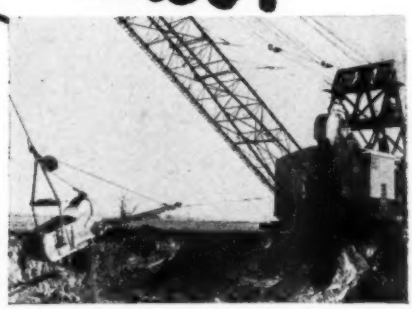
95E47c

WORLD'S LARGEST DRAGLINE BUCKET

Rated at 30 cu. yds. this new Page AUTOMATIC is actually handling 34 to 35 cu. yds. of overburden per pass cycle time of one minute to one minute and fifteen seconds. Loading time is 6 seconds — dumping time 3 seconds which is good performance for many types of much smaller buckets and peak efficiency for any type of larger dragline buckets.

Whether your requirements are for a ⅜ yd. bucket or 30 yards, a Page AUTOMATIC will move more dirt in less time than any other bucket made. It digs in immediately and gets a full load within one or two bucket lengths. There's little or no spillage with each full load. Page AUTOMATICS are built no heavier than your specific job requires but have all the necessary weight for good digging, sturdiness and minimum maintenance. The new booklet, "How to Get the Most Out of Your Page Automatic Dragline Bucket" will give you complete details. Send for your copy today.

a Page Automatic of Course!



Northern Illinois Coal Corporation gets full loads every time with the world's largest dragline bucket stripping overburden at depths ranging from 30 to 70 feet.

BETTER ROADS FOR A BETTER WORLD — 45th Annual Convention and Road Show — SOLDIER FIELD CHICAGO — JULY 16-24, 1948

PAGE ENGINEERING COMPANY
Clearing Post Office
Chicago 38, Illinois

PAGE *Automatic*

DRAGLINE BUCKETS and WALKING DRAGLINES

Avoid *costly equipment* Tie-ups

Maintain and repair with Hartop, the new P&H series of hard-surfacing electrodes

Hartop electrodes fight abrasive action, prolong the life of your equipment, and save you money

These four new electrodes cover every hard-surfacing requirement. Here are some facts about them:

For angular shock and abrasion, Hartop Brown — Rockwell C hardness as deposited, 35-40. Stable arc, easy striking, no spatter, no slag. The smooth deposit can be hot-forged. Hartop Brown does not chip or spall along the edges from glancing blows or sudden loading. Ideal for repairing tractor track rails, crawler pads, rollers, idlers, clutches, sprockets, gears, shafts, crane wheels, wobblers, etc.

For general all-purpose hard-surfacing, Hartop Green — Rockwell C hardness 45-50. This electrode with its stable, easy-striking arc, like all Hartop rods, is easy to apply. Hartop Green has high resistance to impact and abrasion. It forms a strong bond on carbon, alloy, and manganese steels, and cast iron. Typical applications are crusher jaws, grizzly bars, crusher plates, hammer mill hammers, dipper teeth, bucket lips, pump housings and impellers, etc.

For resistance to severe impact and extreme abrasion, Hartop Red — Rockwell C hardness 50-55. Easy to apply. Seldom requires finish grinding. It can be used on dipper teeth, hammer mill hammers, crushing rolls, grader blades, screw conveyors, pug mill knives, ditcher teeth, sizing screens, tractor cleats, bulldozer tips, etc.

For resistance to flat impact and abrasion, Hartop Yellow — Rockwell C hardness 58-63. This electrode produces a dense alloy deposit that resists deformation caused by weight and impact. You find it good for cams, latch bars and keepers, ball joints, clevis and implement connections, stoker screws, chain guides, chain links and pins, etc.

Special Trial Offer — These money-saving electrodes have proved so successful in prolonging equipment life that we want you to know about them. That is why we have made up a special assortment of all 4 types of Hartop electrodes. This trial assortment is packed in a special moisture-proof reusable tube. Low trial offer price is $4.25, postpaid. The offer is limited, so mail the coupon today.

Mail Coupon Today

P&H WELDING ELECTRODES
4517 West National Avenue
Milwaukee 14, Wisconsin
HARNISCHFEGER CORPORATION

Special Low-price Trial Offer

HARNISCHFEGER CORPORATION
Welding Division
4517 W. National Ave., Milwaukee 14, Wis.

Gentlemen:

☐ Please rush my trial tube of new, better P&H Hartop Electrodes.
☐ Check or money order enclosed.
☐ Send me literature on the Hartop Electrodes.
☐ Send C.O.D.

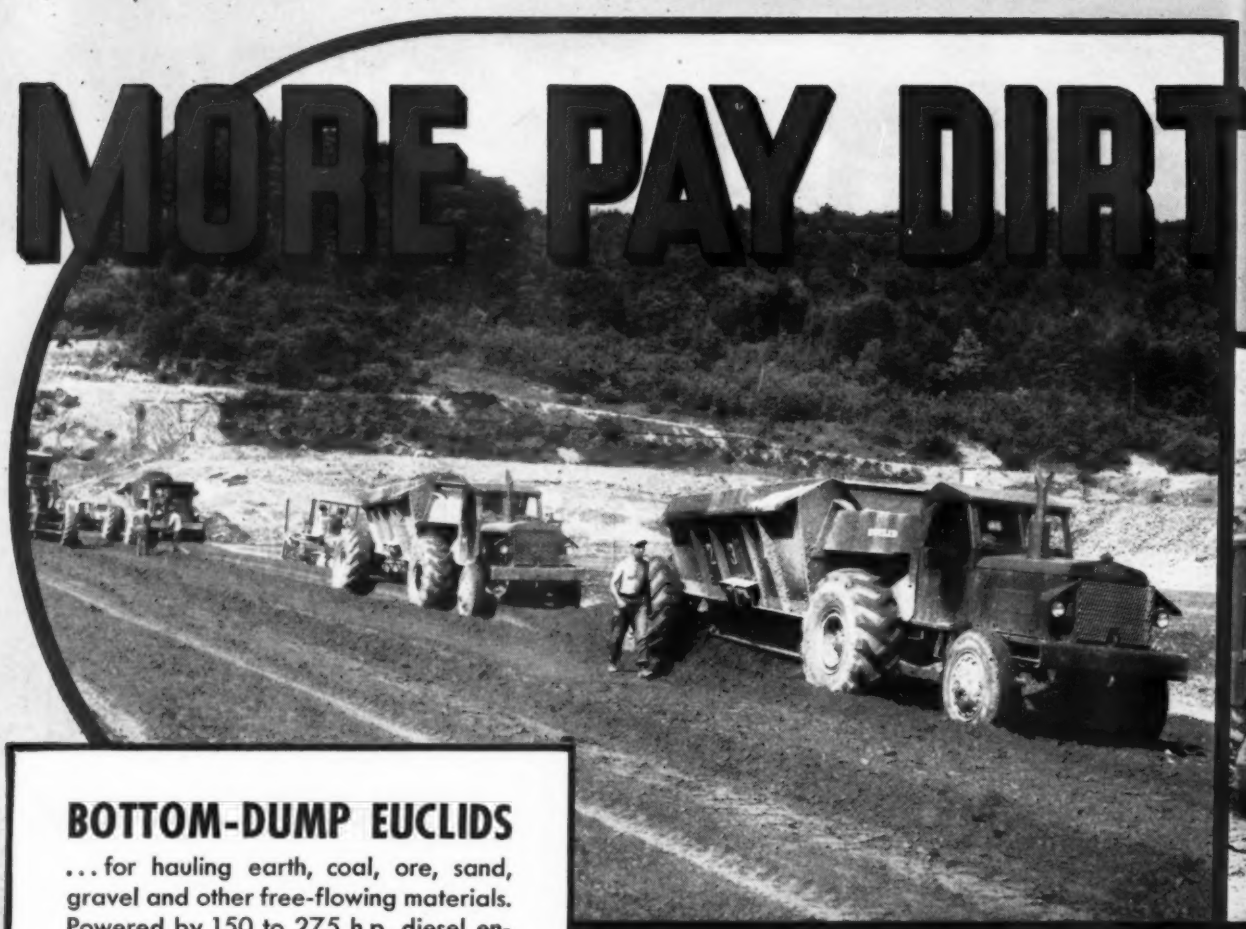
Name .....

Address .....

City ..... Zone .....

State .....

MORE PAY DIRT



BOTTOM-DUMP EUCLIDS

... for hauling earth, coal, ore, sand, gravel and other free-flowing materials. Powered by 150 to 275 h.p. diesel engines ... top speeds loaded up to 32.6 m.p.h. ... capacities of 13 to 50 cu. yds. — 20 to 40 ton payloads ... fast, clean dumping ... easy handling ... large tires and excellent weight distribution for good traction and flotation ... double reduction, planetary type drive axle.

Euclid earth moving equipment is engineered and built to move more dirt at lowest cost. Simple but rugged construction, combined with speed and economy of operation, result in more pay dirt and more profit.

Easy loading ... large capacity ... a wide range of usefulness ... speed on the haul road and dump ... long life in heavy duty service ... these are but a few of the Euclid features that cut hauling costs. More yards moved more profitably and more pay in every payload—that's the Euclid story.

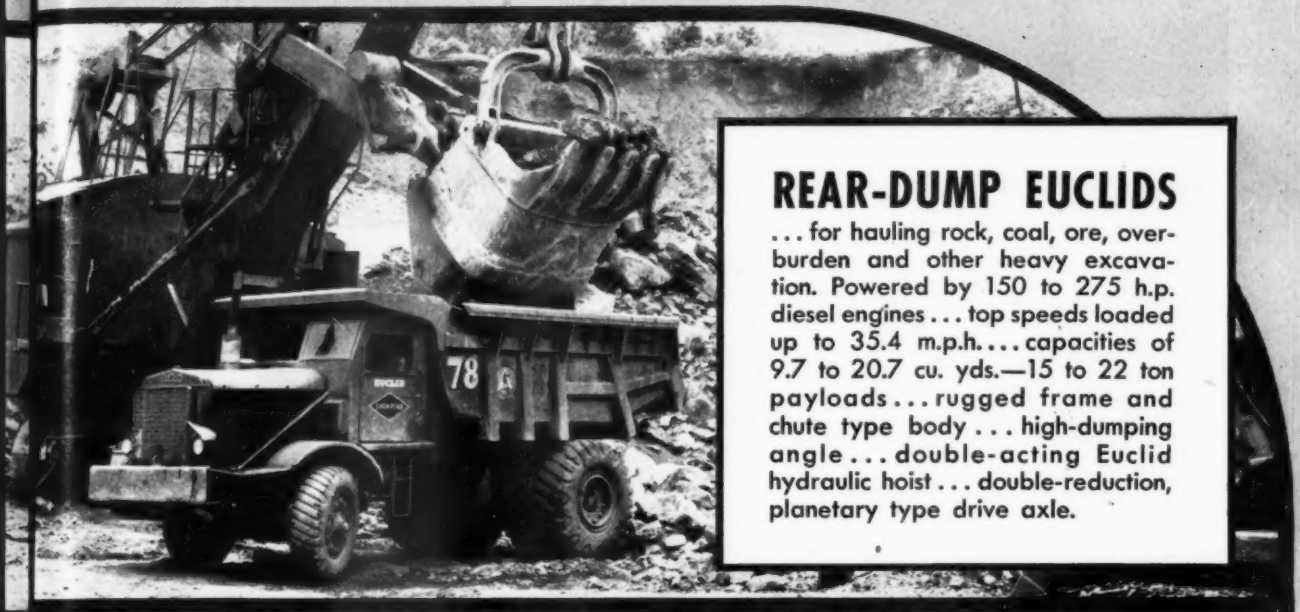
Don't Pass up the Opportunity to see the many new EUCLID Developments at the

CHICAGO ROAD SHOW

JULY 16-24

EUCLIDS

Means MORE PROFIT



REAR-DUMP EUCLIDS

... for hauling rock, coal, ore, overburden and other heavy excavation. Powered by 150 to 275 h.p. diesel engines ... top speeds loaded up to 35.4 m.p.h. ... capacities of 9.7 to 20.7 cu. yds.—15 to 22 ton payloads ... rugged frame and chute type body ... high-dumping angle ... double-acting Euclid hydraulic hoist ... double-reduction, planetary type drive axle.

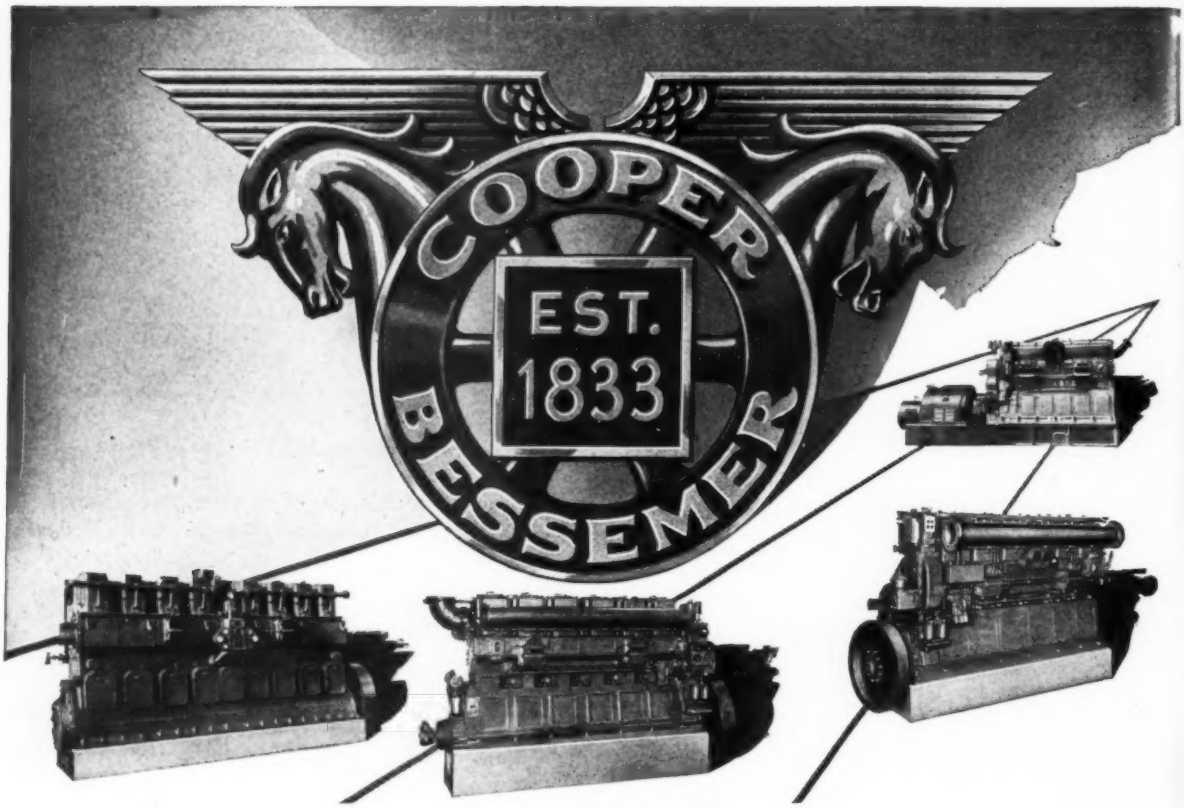
EUCLID LOADER

... for fast mobile loading of large capacity hauling units. Powered by 150 or 190 h.p. diesel engine mounted in rear. Loads practically any material in short travel distance ... all loader operations controlled by tractor operator ... three handy control levers start and stop belt and adjust cutting blade for angle and depth of cut ... maximum cutting depth 24" ... grading cuts can be made up to 9'6" in width.

Ask your Euclid distributor or representative to show you how you can do a wider range of jobs with Euclids at less cost per ton or yard moved.

The EUCLID ROAD MACHINERY Co. Cleveland 17, Ohio

Move the Earth



Sign of Diesel Performance at its Best

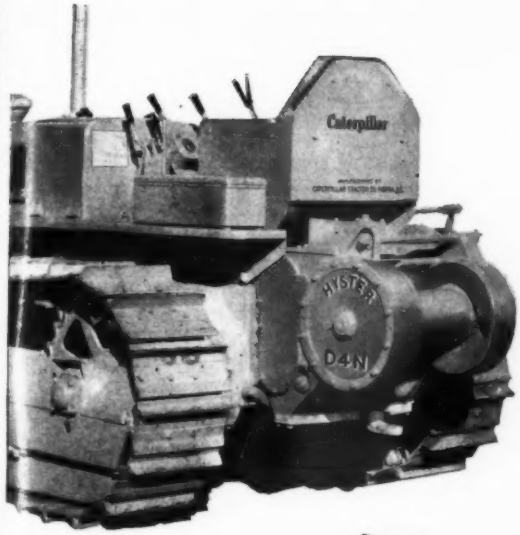
THE emblem you see above appears on every Cooper-Bessemer Diesel, symbolizing 113 years of fine engine building. It has present and future significance as well. It means engines today that are better than ever . . . engines tomorrow that are still better than today's. For at Cooper-Bessemer, continuous progress is a century-old habit. This habit pays off to power users . . . pays off in Diesel stamina, efficiency, and all-around performance at its very best!

Cooper-Bessemer diesels range from 100 to 2000 horsepower, supercharged and atmospheric, for all marine, locomotive and stationary services. Get in touch with the nearest Cooper-Bessemer office for specific information.

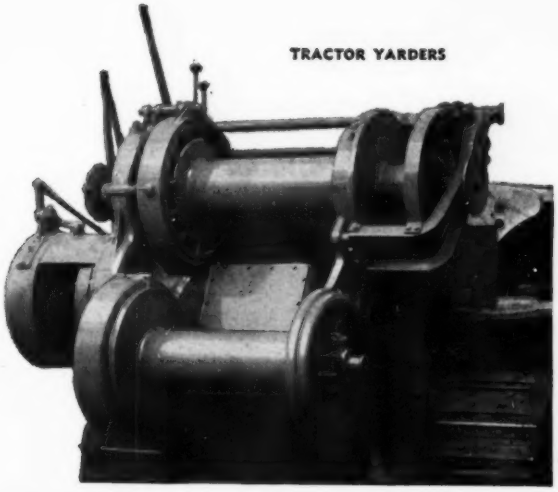
The
Cooper-Bessemer
Corporation

MOUNT VERNON, OHIO — GROVE CITY, PENNA.

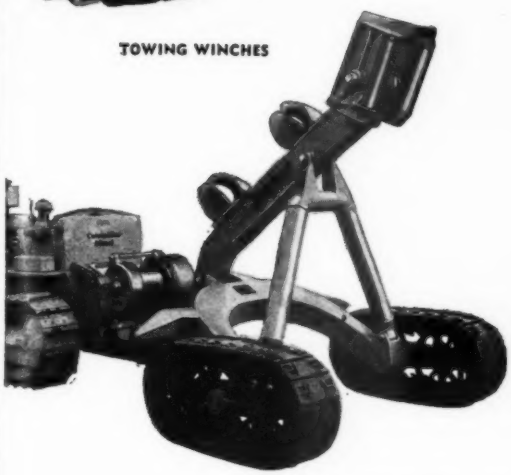
New York Washington Tulsa Dallas Seattle
St. Louis Houston Los Angeles Shreveport
Calmes Engineering Company, New Orleans, La.



TRACTOR YARDERS



TOWING WINCHES



LOGGING ARCHES and SULKIES

29 Tractor Tools for greater work production

For almost 20 years Hyster has been making a full line of equipment for use with "Caterpillar" track-type tractors

The current line of 29 tractor tools includes towing winches, yarders, donkeys, cranes, logging arches, sulkies and the Hystaway—the revolutionary tractor tool that combines clamshell, dragline, crane and bulldozer; all tractor mounted.

Your "Caterpillar" distributor sells and services Hyster tractor equipment. See him for information. Write for catalogs.

HYSTER

HYSTAWAY

HYSTER COMPANY

2976 N. E. CLACKAMAS ST., PORTLAND 8, OREGON
1876 NORTH ADAMS STREET, PEORIA 1, ILLINOIS

Electric Component Drives Make this Modern Aggregate Plant Efficient, Easy to Dismantle

ELECTRIFIED CONSTRUCTION
BETTER PRODUCT
LOWER COST

Look how one wise contractor utilizes electric drives to produce aggregate for large construction jobs. In this modern plant there is a total of 765 electric-motor horsepower driving jaw crusher, rotary scalping screen, log washer, rotary crusher, sand roll, sand classifier, sizing screen, elevator and conveyors. That's real versatility . . . and it's indicative of the trend toward more and varied use of electric power in construction.

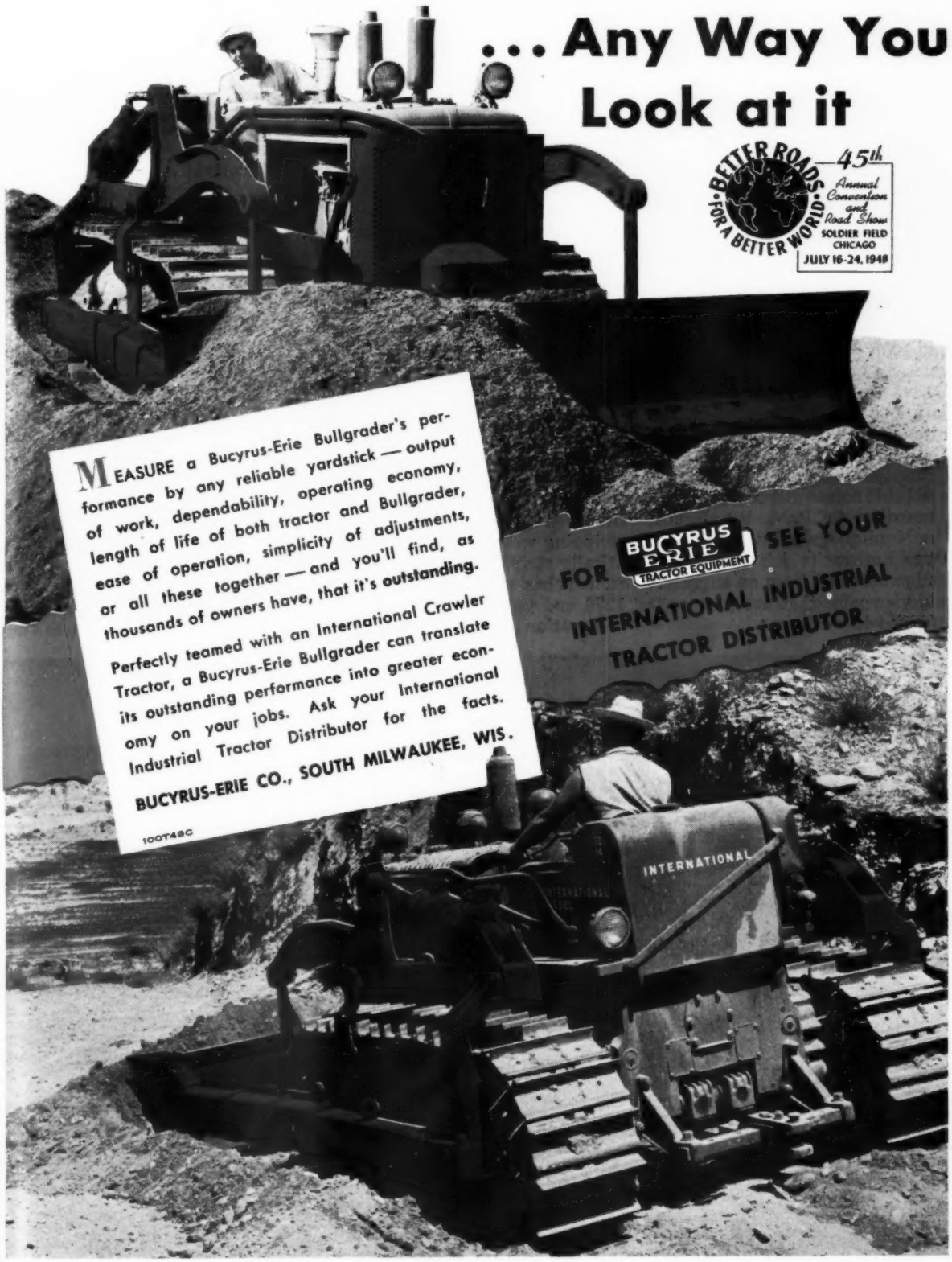
Electric drive, which offers the maximum in reliability with minimum maintenance, helps contractors build more for less . . . faster. Whether you buy or build contractors' equipment, ask your General Electric representative to show you the inherent advantages of electric drive. *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

OUTSTANDING

... Any Way You Look at it

BETTER ROADS FOR A BETTER WORLD
45th Annual Convention and Road Show
SOLDIER FIELD CHICAGO
JULY 16-24, 1948



MEASURE a Bucyrus-Erie Bullgrader's performance by any reliable yardstick — output of work, dependability, operating economy, length of life of both tractor and Bullgrader, ease of operation, simplicity of adjustments, or all these together — and you'll find, as thousands of owners have, that it's **outstanding.**

Perfectly teamed with an International Crawler Tractor, a Bucyrus-Erie Bullgrader can translate its outstanding performance into greater economy on your jobs. Ask your International Industrial Tractor Distributor for the facts.

BUCYRUS-ERIE CO., SOUTH MILWAUKEE, WIS.

100T48C

FOR BUCYRUS ERIE TRACTOR EQUIPMENT SEE YOUR INTERNATIONAL INDUSTRIAL TRACTOR DISTRIBUTOR

Fifteen Million Yards a Year

Describing three of the operations of A. E. Dick Contracting Company and Dick Construction Company which together make one of the largest coal stripping contracting firms in the world.

THAT the Dick organizations of Pennsylvania — anthracite strippers since 1880— have long been outstanding leaders in their business is no accident. A rare combination of able management "living" with field operations and an enlightened policy of purchasing equipment to suit each particular job has consistently paid dividends. And it gives every evidence of continuing to do so.

Typical of the Dicks' ability to make a routine job out of an unusually difficult stripping contract is the current project at Locust Gap, Pennsylvania. Known as the "Monitor" stripping of the Philadelphia and Reading Coal and Iron Company, this is a particularly deep, hard-rock job with a difficult refuse disposal problem. According to P. & R. officials, the Monitor stripping is the first large anthracite job so laid out and supervised from an engineering viewpoint that every move is planned in advance.

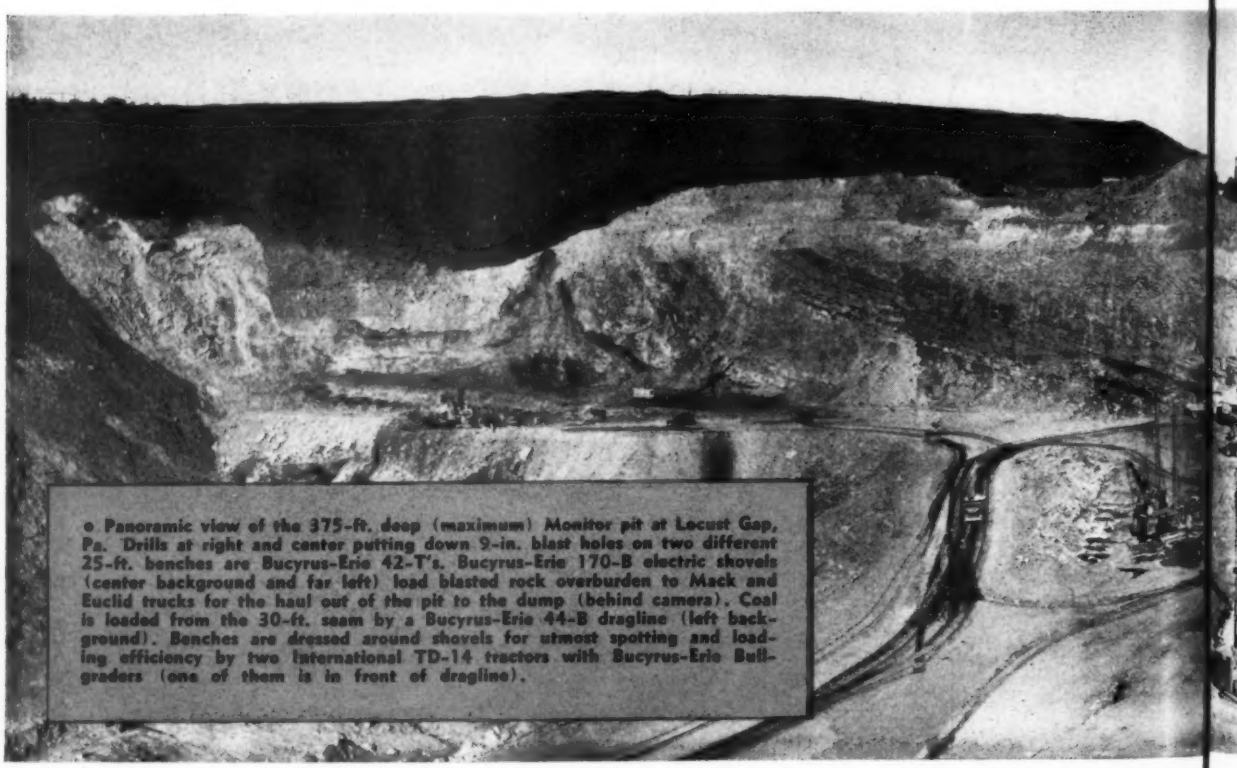
Average depth of the coal seam at Monitor is 200 feet, although some stripping is done to 375 feet. The last 30 feet of overburden is Pottsville conglomerate, a quartzite formation, and some of the hardest rock there is anywhere. The balance of the overburden is sandstone and shale. Underground work started in this area in the 1860's and was completed in 1890's. This particular deposit has been stripped for fifty years or more, largely with the use of railroad-type shovels.

Present work involves removing 40 feet of old spoil placed over the area from previous nearby stripping work, and then systematically stripping the mine in 25-ft. benches starting at elevation 1270 and going down to the coal —elevation 1020. Trucks haul spoil material up haul roads with maximum 8% grades, to the dump at elevation 1245. Dick Construction Company started work at Monitor in 1936 and has averaged 250,000 cu. yd. of overburden a month ever since. The job will be completed sometime in 1951.

70-Degree Slopes in Rock

Since this is a very deep pit and is limited on three sides by a large coal breaker, a railroad main line, and a breaker refuse dump, the sides must be cut as steeply as practical in order to expose the greatest amount of coal. Slopes of 1½ to 1 are used in softer material, and up to 70 degrees in hard material.

Nine-inch blast holes are put down on 15 to 20-ft. squares (de-



• Panoramic view of the 375-ft. deep (maximum) Monitor pit at Locust Gap, Pa. Drills at right and center putting down 9-in. blast holes on two different 25-ft. benches are Bucyrus-Erie 42-T's. Bucyrus-Erie 170-B electric shovels (center background and far left) load blasted rock overburden to Mack and Euclid trucks for the haul out of the pit to the dump (behind camera). Coal is loaded from the 30-ft. seam by a Bucyrus-Erie 44-B dragline (left background). Benches are dressed around shovels for utmost spotting and loading efficiency by two International TD-14 tractors with Bucyrus-Erie Bullgraders (one of them is in front of dragline).

pending on the hardness of the rock encountered) by a fleet of ten Bucyrus-Erie 42-T percussion-type drills. In order to provide flexibility and to prevent any possibility of interference with the excavating and hauling work, the drills keep as far ahead of the shovels as possible. Eight of the rigs are electric-powered and two have diesel engines.

The explosive ratio varies from 1 lb. per cu. ft. of hard conglomerate down to .6 lb. per cu. ft. in slate. From 225 to 250 pounds of Atlas or Hercules 40% gel are placed in the bottom of each 30-ft. hole. The deck load at 17 feet varies from 50 to 75 pounds of explosives. Primacord is used as a detonator.

Blasting is made difficult by the presence of the main line of the Philadelphia and Reading railroad only 500 feet from the south limit of the pit. Each blast must be scheduled and checked with a nearby switch tower operator for a time when no trains are in the section. Blasts vary from 10,000 to 40,000 pounds of explosives.

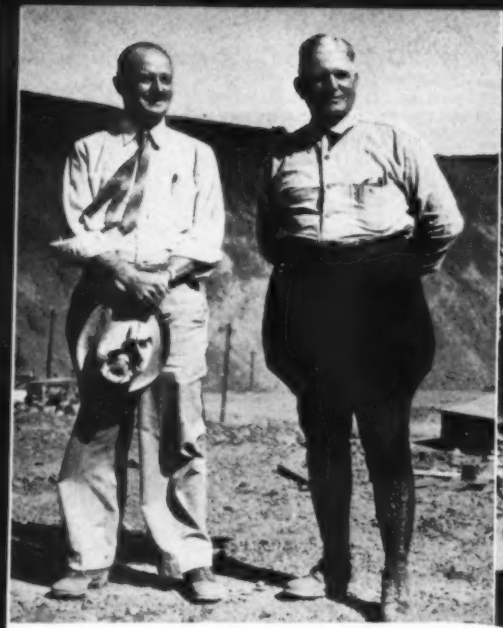
Blasted rock is loaded to a fleet of large trucks by two Bucyrus-Erie 170-B electric shovels with 6-yd. dippers. Trucks—34 ten-yd. rear-dump Euclids with 150-hp Cummins diesel engines, two 275-hp. 15-yd. Euclids, and two 50-ton Mack FC's with 21-yd. bodies are on the job—are very carefully spotted to require the shortest possible swing by the shovel. A truck is usually spotted on each side so that as soon as one truck is filled, the shovel can swing to the opposite side without missing a beat.

The haul to the dump at the time of the visit of the Excavating Engineer representative was a 3½-mile round trip up an 8 percent grade—a total rise of 270 feet. Thirty trucks were being used to serve the two shovels. The trucks were soon to change to a 1½-mile round trip haul requiring 24 of them to serve the two shovels. In an average month, the shovels load 250,000 cu. yds. of rock to the trucks and have loaded in a record month 320,000 yds. About 19,500,000 cu. yds. of materials have been removed from the pit, with 6,000,000 to go.

Truck loads at Monitor average six cu. yds. and vary from five to eight yds. bank measure, depending on the material. A 35% swell is experienced in rock.

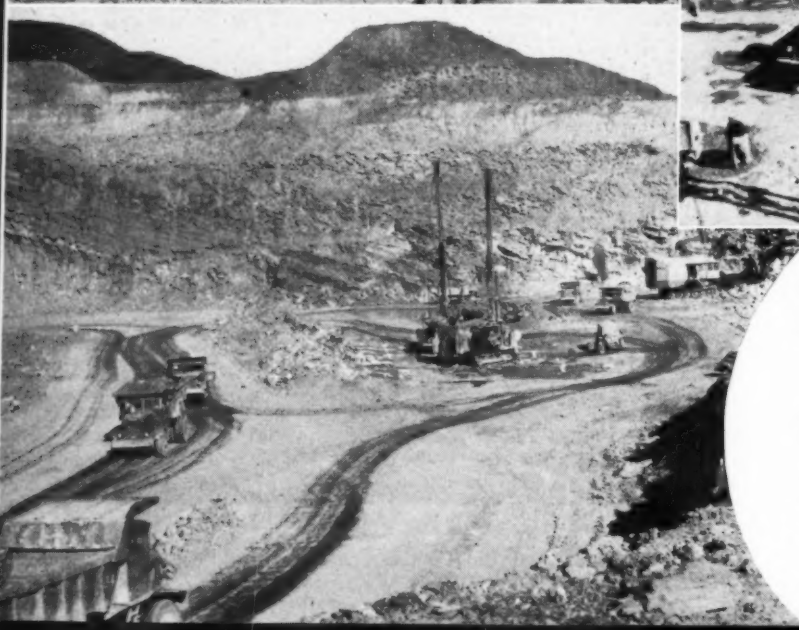
• A. E. Dick, Sr., "Dean of Coal Strippers," under whose leadership of more than 60 years has been built one of the largest firms in its field.

Hauling roads, carefully constructed to keep under the 8 percent maximum grade in order to prevent undue wear and tear on trucks, are regularly sprinkled by three tank trucks: a Mack BQ, a Mack AC, and a model C Euclid. The Macks carry 2000-gal. tanks and Ingersoll-Rand 600 gpm centrifugal pumps operated by the power take-off. Water is transferred to three 1000-gal. tanks mounted on wheels, placed con-



• Above: D. B. Dick (left) is general manager of the Monitor stripping job and C. J. Reeves is superintendent. Photos on these two pages show work at Monitor.

• Right: One of two Bucyrus-Erie 170-B electric shovels with 6-yd. dippers loads rock overburden to 10-yd. Euclid trucks with Cummins diesel engines.



• Above Left: Euclid truck spills its 10-yd. load at th dump after a 1¾-mile haul (total rise 270 feet) out o the pit. International-mounted TD-18 Bullgrader (right dresses fill.

• Above: Five of the ten Bucyrus-Erie 42-T percussion type drills on the job put down 9-in. x 30-ft. holes fo the next bench.

• Left: The two 6-yd. shovels keep 30 trucks busy o the 3½-mile round trip haul. Note excellent conditio of haul roads.

veniently to the drills. The Euclid has a 1000-gal. water tank.

As part of the job program to keep haul roads in peak condition, shovel operators are instructed to be continually on the lookout for suitable material to be used in improving them. When this material is available in the bank, the shovel operator will load one of the trucks with material for distribution where needed. Haul roads average 40-ft. in width, are often smooth as a highway.

Loading of coal after it is exposed by the stripping work is not in A. E. Dick's contract and is being handled by the Philadelphia & Reading Coal Company with a 2½-yd. Bucyrus-Erie 44-B dragline. The raw coal ratio at Monitor is 6 to 1 and the prepared ratio is 9 to 1 (these figures are cu. yds. to long tons).

Enforce Safety Rules

Safety rules are rigidly enforced, including one requiring that the drivers dismount from cabs while trucks are being loaded. A bullgrader operator is instructed to keep the bench clean around the shovel, and together with the greaser and the truck spotter, he keeps the power cable for the shovel out of the way of trucks.

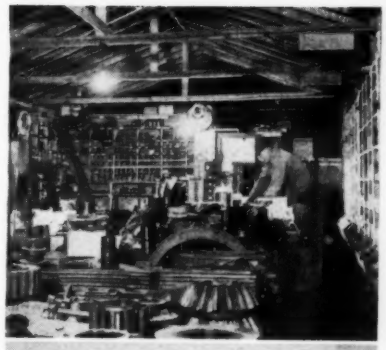
The mine is operated in three 7-hour shifts starting at 7:00 AM, 2:00 PM and 9:00 PM, with the third shift drilling only. Most greasing and repairing is done on the third shift. Trucks are greased once a week and oil—all Gulf Automotive B—is changed every ten days. Both Gulf and Whitmore chassis lubricants are used. All diesel fuel is supplied by Gulf Oil Co. as is the number 140 rear end grease. Tires are all Firestone Ground Grip. Electric power for operation of shovels, drills, and other equipment is secured from the Pennsylvania Power & Light Company.

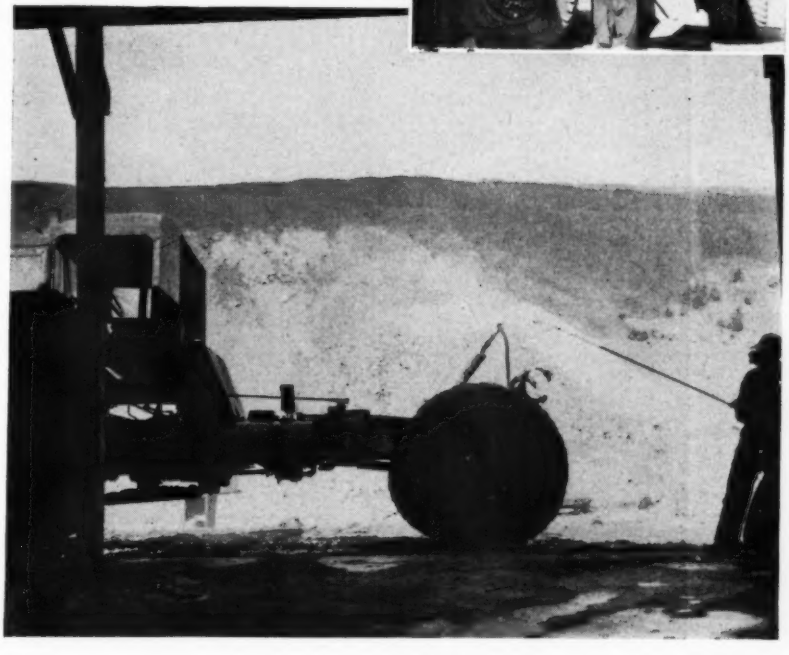
Rapid Truck Repair

Important points on the trucks —such as drive shafts, emergency brakes, dump body hinge rubbers, and wheel studs— are checked by the maintenance crew on a once-a-week schedule. Extra transmissions, engines, rear ends, and other assemblies are ready at all times to drop into trucks and return them to service within a few hours. Any of these units are changed in one shift. All trucks are steam-cleaned as a regular part of the maintenance procedure.

The repair shop crew at Monitor has built all together 12 truck bodies for the Euclids. Shop equipment includes a Jenny steam cleaner, an Austin Western 444 tractor crane, a No. 12 Bucyrus-Erie bit sharpener, two bit-heating furnaces, one tempering furnace for bits, one Ingersoll-Rand Jackhammer bit sharpener, a 315-cu. ft. Ingersoll-Rand stationary compressor, a Lincoln 400-amp. welder, a P & H 400-amp. welder, a Ford 38 panel truck mounting a Ford V-8-powered Lincoln 300-amp. welder and also a Linde gas welding outfit.

For utility haulage around the



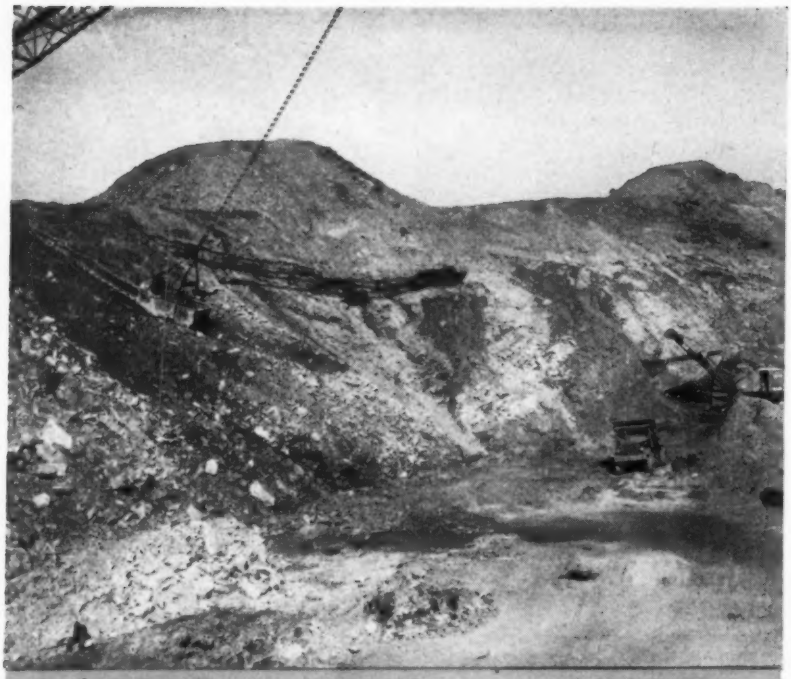


• **Top: Examining a pinion in the Dicks' completely-stocked parts room at Monitor is William Lex, Jr., assistant superintendent.**

• **Above: Dick Construction Company maintains extensive repair shops at Monitor.**

• **Right: One of many safety features at the mine, this brace prevents accidental dropping of truck body while hoist is being serviced. Directing spotting of the truck is Claude Stauffer, maintenance foreman.**

• **Below: Truck chassis are regularly steam cleaned at Monitor as a part of the maintenance program.**



• These photos show stripping and coal loading work at Jeddo. Drills — Bucyrus-Erie 42-T's—put down 9¼-in. x 90-ft. holes. Clay and rock overburden is removed from the average 25-ft. coal seam (as deep as 120 feet below grade) by the Bucyrus-Erie 1150-B dragline with 200-ft. boom and 22-yd. bucket. Coal is loaded out to 10-yd. Euclid trucks by the 2-yd. P & H shovel (later replaced by a 2-yd. Bucyrus-Erie 44-B).

mine, Dick Construction Co. uses three flat-bed trucks: a Ford 1½-ton, a GMC 15-ton, and a Mack AC. Other equipment includes four International-mounted Bucyrus-Erie Bullgraders (two TD-14's and two TD-18's), and one Caterpillar No. 12 motorgrader.

General manager of the Monitor job is D. B. Dick, who is also general manager of the Dick Construction Company. Clarence J. Reeves is superintendent and assistant superintendents are Harry Hinderliter, first shift, William Lex, Jr., second shift, and Anthony Danielovits, third shift. Lester Reich is drill foreman and Claude Stauffer is in charge of trucks.

Dragline Stripping at Jeddo

A. E. Dick Contracting Company's 15-million-yd. stripping contract with the Jeddo-Highland Coal Company is quite different in both problem and solution. Situated in the eastern middle coal field, five miles east of Hazleton, Pa., this property had been mined underground from the early 1860's until 1932.

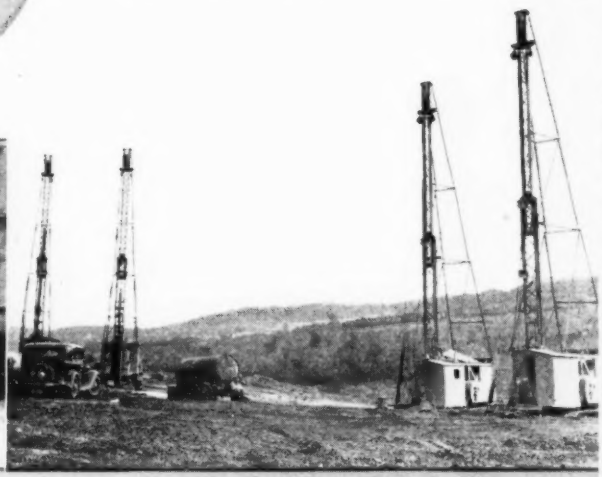
The present work is all of a salvage nature inasmuch as all the coal economically feasible to mine by underground methods has been removed. The "Mammoth" vein here averages 25 feet thick and is as much as 35 feet thick in some spots. Present stripping work is uncovering coal as deep as 120 feet below the surface. The first 20 to 35 feet is clay and from there down to the coal is dark grey sandstone (sedimentary rock), some of it friable. Although this is not extremely hard rock, it requires good shooting in order to dig well.

Previous crop strippings on this property involved railroad-type 2½-yd. shovels, loading both overburden and coal to rail-type haulage during the early 1900's. Using this equipment, some basins were stripped to depth of about 100 feet. Coal as deep as 80 feet has been stripped here by Bucyrus-Erie 200-B's and smaller draglines since 1937.

Stripping is accomplished at Jeddo with a single excavator—a Bucyrus-Erie 1150-B dragline which handles a 22-yd. bucket

(Continued on page 59)

• Star performers on the Dicks' Trerton job are two big strippers — a Bucyrus-Erie 9-W dragline with 200-t. boom and 8-yd. bucket (above) and a Bucyrus-Erie 1150-B dragline with 200-ft. boom and 22-yd. bucket (above right). The 1150-B is stripping an average of 125 feet of tough rock overburden in an 80-ft. wide cut.



• Above Left: 9-in. x 130-ft. blast holes at Trevorton get an average 800-lb. load of Hercamite B.

• Above Right: Four Bucyrus-Erie percussion-type blast hole drills put down 9-in. holes at Trevorton.

• Below Left: Far below the 1150-B dragline at Trevorton, a Bucyrus-Erie 54-B dragline with 85-ft. boom and 2-yd. bucket loads out coal.

• Below: At Trevorton, the photographer catches rock overburden in mid-air during an 8000-lb. blast. The drills are diesel-powered Bucyrus-Erie 42-T's.

Service Is Their Secret

Typical successful local contractors are the Wyatt brothers of Angola, Indiana. Their profitable and highly varied business of today has grown in four years from an operation involving a single truck loaded by hand.

by A. E. Holden

A GROWING need in rural areas for excavating, crane, and sand and gravel service has meant good business for the enterprising local contractor. When the Wyatt brothers, Jim and Wilbur, bought 49 acres of land near Angola, Indiana, four years ago, they could hardly have foreseen the present scope of their business.

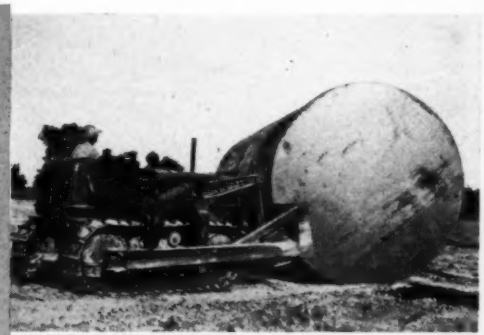
Wilbur started in 1944 and continued for a full year to develop a gravel pit on the property by hand-loading to a Ford dump truck. Fortunately, the many grades of material he uncovered enabled him to fill a wide range of orders—from foundation subbase material to top dressing of lawns. Present operations in the pit—now several acres in extent—remove from various layers building and plastering sand of such high quality that it requires no sifting or washing, and gravel in various grades.

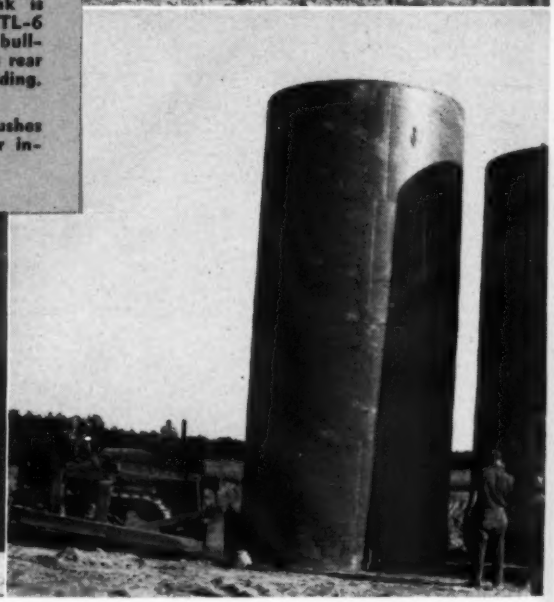
An especially fine grade of building sand lies about eight feet below the present floor of the pit. This material is uncovered as needed for special orders, and loaded out by a Lorain TL-20 dragline with a ⅝-yd. Hendrix bucket. After the desired amount of sand has been removed, a bulldozer backfills with regular gravel to keep the pit floor level for hauling operations.

Develop Road Mix

The brothers' willingness to tackle most any type of job has

(Continued on page 58)



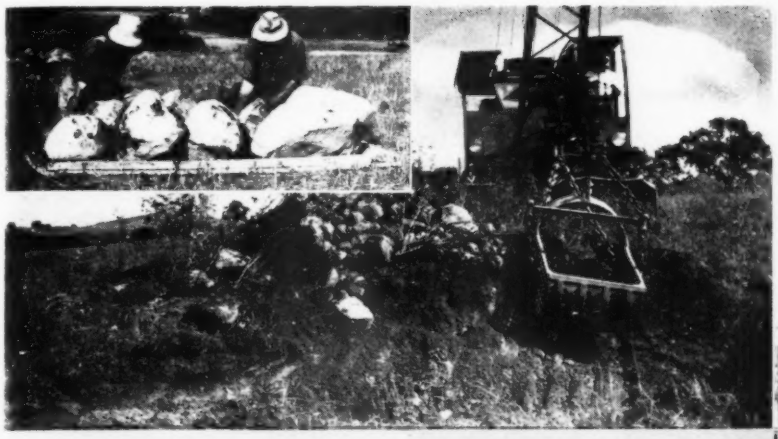


• Lorain dragline with ⅝-yd. Hendrix bucket loads top soil to a Ford truck. The job is a 3-acre Cities Service Oil Company bulk plant located one mile west of Angola, Ind., on highway 20.

• Right: After the area was leveled by the dragline, this Allis-Chalmers RD-7-mounted Gar Wood bulldozer rolled 20,000-gal. tanks into position.

• Bottom Left: An oil tank is uprighted by the Wyatts' TL-6 Michigan truck crane. The bulldozer is used to block crane's rear wheels to prevent side-skidding.

• Bottom Right: Dozer pushes tank into desired position for installation.



• **Above: The Lorain dragline digs one of 30 holes on the Young brothers' farm for burying stone piles like the one shown. Inset shows the Young brothers assisting by stone-boating some of the larger boulders to a newly-excavated hole. After back-filling by the dragline, the holes were packed by the Gar Wood dozer.**

• **Right: A large electric sign for a new Angola, Ind., garage is erected by the Michigan truck crane. To lessen the possibility of damage to the sign, it was placed without uncrating.**

• **Below Right: Loading out gravel at the company pit located just off highway U. S. 20, near Angola, Ind.**

• **Above: Digging sewer trench for a new assembly and parts plant of the Federal Mogul Company in Coldwater, Michigan.**

• **Below: One important factor in the Wyatts' ability to handle so many short jobs with their equipment is this Kelly-tired Reo truck with La Crosse trailer.**

• **Below Right: Grounds for a new country home near Angola, Ind., are graded by the Wyatts' Allis-Chalmers tractor with Gar Wood bulldozer.**

• Donald MacIsaac "buzzes" a construction job in his Navion—signal that the boss has arrived for an inspection of job progress.

Illustrated by an ever-growing list of contractors' daily uses of aircraft, the difficulties presented by time and distance are regularly being overcome by air-minded construction men.

by Robert F. Smith
Ryan Aeronautical Company

Planes in the Contractor's Battle

"I'M getting too old to take that long drive, hitting up to 80 miles per hour to make it there in six hours." Donald MacIsaac, 52-year old industrial building contractor, was speaking about the auto trip from Los Angeles to Overton, Nevada, but he expressed the impatience of the whole building industry; for time and distance still remain major obstacles to the far-reaching programs that go with modern construction operations.

MacIsaac, like most other ambitious men in the field, couldn't put up with the existing state of affairs indefinitely. Believing that personalized air transport might be the answer, he learned how to fly. Then he bought a four-place Navion and put the all-metal plane to work in his company's business. In a short time his partner, Arthur Menke, also qualified as a pilot. Quickly they began to experience the satisfaction typical of companies in the construction business who use aircraft in their daily activities.

Time Cut in Half

Flights from Los Angeles to a sand refining plant job at Overton almost eliminated these tedious trips formerly made by car. "It was a tiresome drive and it took two days for one inspection trip. The other day I left the local airport at noon . . . had a pleasant two-hour flight to Overton, finished my business there and was back in Los Angeles by dark," MacIsaac relates.

MacIsaac and Menke believe use of the airplane has contributed directly to the growth of their business. One contract for building a warehouse was obtained primarily because MacIsaac *flew* to a conference with the warehouse people. When they learned he flew his own plane, their attitude immediately became favorable. Previously tough to deal with, they now wanted to know, "When do you go to work?"

Another company profitably using air travel, Lobnitz Brothers, Rexburg, Idaho, utilize a plane in connection with the work of leveling farm lands, clearing and reclaiming brush land, cleaning and repairing canals, and excavating for potato pits. "The airplane saves me a lot of time getting jobs and delivering parts to different locations," comments L. R. Barrick, partner in Lobnitz Brothers.

In highway construction, H. Earl White, Marysville, California, uses a Navion to haul machinery parts to outlying projects, removing the seats to load up the plane to its 645 pound capacity. Flying to job sites for inspection

• Contractor MacIsaac (center) drops down to his Overton, Nevada, sand refining plant construction job to consult with Piping Installation Superintendent W. L. Pawson (left) and Construction Superintendent Densmore Saunders.

and transporting superintendents and engineers save him valuable executive time.

With jobs in several states going on at the same time, the J. D. Armstrong Company, heavy earthworks and ICC transportation contractors of Ames, Iowa, keep equipment in repair parts, with the least possible down-time. "We consider our airplane a very good investment. It costs no more to run than a car or a service pick-up. It increases our efficiency 20%," say Armstrong officials.

Fly Emergency Parts

Questioned about the business value of their Navion, M. Clare Miller, managing partner of the San Ore Construction Company, McPherson, Kansas, replied, "Very practical, with substantial savings in executive time and breakdown-time losses, Permits executives to cover work much more often. We fly emergency repair parts to jobs, thereby lessening breakdown-time materially. We used to drive to the jobs wherever they might be—now we fly," Miller added.

Concerning the effectiveness of the San Ore flight program, he points out, "Hardly a week passes that we do not have to fly emergency repair parts to some job. By flying we can cover two or three jobs in a single day— same trip by car would require two or three days."

An airplane forms a vital link in the far-flung business activities of Chester A. Weseman, Austin, Minnesota, contractor. Weseman keeps close contact between Minnesota contracting operations, Texas citrus ranch and Nevada gold mine interests by means of his own personal plane. He covers 3000 miles in two days during flights between McAllen, Texas; Austin, Minnesota; and Sulphur, Nevada.

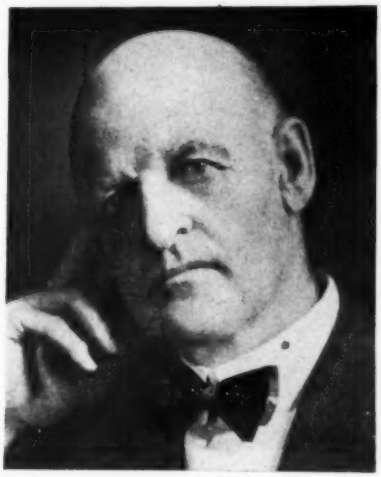
The S. J. Reynolds Company, Chicago, Illinois, in contracting for industrial heating-plumbing and process piping throughout the middle west, uses an airplane to get to jobs faster and more frequently for inspection.

Railroad contractors in the Midwest and Pacific Northwest, the William A. Smith Contracting Company, Inc., Kansas City, especially value their Navion because it frees them from limited routes of scheduled airlines. With their own plane, they can generally get within five miles of any job in progress.

Company records provide this typical case of their time-saving plane usage. "We carried a Smith superintendent from Kansas City to Lake Andes, South Dakota. Then we continued on to New Salem, North Dakota, to check detail work in progress. Next we went on to Garrison, North Dakota, looked over proposed work and made local contacts. Returned to Lake Andes for part of day, and then back to Kansas City."

Lee M. Cauble, Jackson, Mississippi, excavating equipment

C. H. Locher



Charles H. Locher, engineer, contractor, inventor, and banker —who guided his firms in a great deal of important construction, including canals, levees, dams, and railroads—died January 16th in his home in New York. He was 85.

Born at Balcony Falls, Va., he began construction work in 1877 for the Norfolk and Western Railroad in Virginia, West Virginia, Kentucky, and Pennsylvania. Shortly after his 25th birthday, he became a partner in C. R. Mason & Co., which built between 1887 and 1898 parts of the Louisville Southern, Kentucky Union, and Norfolk & Western Railroads, and a large part of the Chicago Drainage Canal. In connection with the canal, he invented an aerial dumping device for Lidgerwood cableways, and later invented the wagon-type rock drill.

From 1899 to 1904, Mr. Locher was a member of Winston & Co. & Locher, doing heavy construction for the Virginia Electric Railway & Development Company and the Richmond, Petersburg & Carolina, and Chesapeake & Ohio Railways. The concern also constructed Massachusetts Dam, sections of Boston's Weston Aqueduct and tunnels, piers, abutments, and bridges for the Western Maryland Railroad in West Virginia and Maryland.

Mr. Locher joined Grant Smith & Co. in 1904 and was active in the construction of Michigan's West Neebish Canal, Detroit's Livingston Channel, 20 miles of the New York State Barge Canal, hydroelectric plants at Trenton Falls and Waterloo, N. Y., 12 miles of Mississippi levee in Illinois and Arkansas, and Wyoming's Shoshone Dam.

Later, he was construction manager for the Miami Conservancy District flood-control project. Subsequently, he was a construction consultant in hydraulic fill dams in New York and Connecticut, and was named by the Federal Government as member of a 6-man board to investigate and report on the State of Washington's Grand Coulee project.

From 1925 to 1929, Mr. Locher was associated with Frederick L. Cranford, Brooklyn subway contractor in $18 million of construction work on New York City's independent Subway Lines. He served as construction consultant for the Tennessee Valley Authority from 1933 to 1935.

Since 1935, Mr. Locher devoted himself to his 6000-tree apple orchard and large farm at Hancock, Md., and brick manufacturing and silica glass plants and two farms in Virginia. He was president of the Hancock Bank and the Bank of Glasgow, Va., and a member of the ASCE.

C. J. Crozer

Carl J. Crozer, sales engineer with Iowa Manufacturing Company, died January 29, 1948, at his home in Cedar Rapids, Iowa. He became ill last spring while on a sales trip and returned to Cedar Rapids, where he was hospitalized. In May he underwent a major operation and was confined to the hospital from that time until his death.

His fine personality and unusual ability were well known throughout the construction industry. During the last war, he was in charge of the crushing and asphalt equipment section of the Construction Machinery Division of the War Production Board in Washington, D. C. While in this position, he made hosts of friends among manufacturers and users of all types of construction equipment. It was while in the nation's capitol that he met the girl who became his wife.

Carl started with the Iowa Manufacturing Company in 1930 in a position on the assembly floor of the plant. He later became a supervisor in that department and for several years prior to his departure for Washington in 1942, Mr. Crozer was a member of the sales department.

Born in Cedar Rapids on August 11, 1895, he was a lifelong resident of that city. During World War I he served as a private with the U. S. Marine Corps. Carl was a member of Crescent Lodge, A. F. and A. M., El Kahir Shrine, Iowa Consistory and the Elks. He is survived by his wife, Peg, his twin brother Lynn, and a sister, Mrs. Dorothy Hedberg.

dealer, calls on customers with a Navion, and flies them to demonstrations of machinery. He says his plane is working 100% of the time it's in the air. Even on casual flights it builds company prestige. Successfully overcoming the twin obstacles of time and distance, Cauble makes trips by air in two days that ordinarily would take at least a week.

In one particular case, Cauble believes he has the best example of the advantages of an airplane used in business. "We left Jackson, Mississippi, at 7 a.m., had lunch at a plant in Dubuque, Iowa, toured the plant and closed the deal. That night we had dinner with plant executives in Kansas City. We closed another deal the next morning before flying back to Jackson, where we were in our office by noon—1700 miles, two contracts, and 30 hours later!"

On one important flight, his pilot, C. L. Gully, took off in a rain storm from a mud-covered 800-ft. runway with the plane fully loaded with 4 heavy men, full tanks of gas and nearly 100 pounds of luggage.

W. A. Graff, Medford, Oregon, contractor and retail lumber dealer, utilizes a four-place plane to reach his jobs quickly and comfortably and to make buying trips. An electrical contractor, C. V. Sebaugh of Blytheville, Arkansas, rushes emergency electrical supplies by air, and flies key personnel.

M-K Uses Four Planes

Morrison-Knudsen Company, Inc., Boise, Idaho, operates four planes, including one which covers their construction projects in Mexico. During the war, the company flew as many as 15 planes in connection with Alaskan jobs. They consider "an ability to move quickly visiting operations" to be a principal advantage.

Construction of 3000 veterans' housing units on the Washington State College Campus was hastened by the flight operations of Nattleton and Baldwin, Inc., Seattle contractors. Flying methods also speeded up work on the Altus, Oklahoma, canal job of the Stamey Construction Company of Hutchinson, Kansas.

Executives of the Ray Sanders Company, Claremont, California, plumbing and heating contractors, in commenting on their own problems, state the situation for larger operators in the industry quite clearly, "We have many out-of-town jobs and without an airplane would be spending most of our time on the road." A Navion transports their employees and hauls plumbing supplies and tools in a steady application of aviation techniques to contractors' transportation problems. On cross-country business trips, the Sanders' people really move, traveling to Washington, D. C. and Canada in a few days where it formerly took them two to four weeks.

Fly Flooring Materials

Benefits of business flying aren't limited to the building end of the construction industry, however. Related operators also use aircraft effectively. Among the latter is the L. D. Reeder Company, Los Angeles dealer in flooring and sound-proofing material. With branch offices in Portland, San Diego, Sacramento, San Francisco and Seattle, the company has jobs scattered all over the Far West.

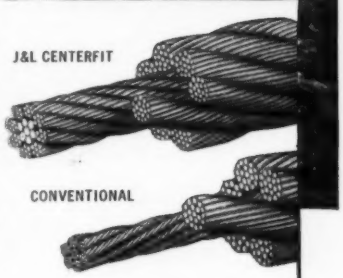
Although they didn't originally expect to make money on the first plane they have ever operated, they soon found it a highly successful business machine. On one trip, Paul Denton, Reeder executive and pilot, flew table top material to Las Vegas to finish a job there rather than have the workmen extend their time on it. He estimates he saved $60 in wages (4 men at $15 a day) by flying the material instead of shipping it.

Denton firmly believes that large organizations with branch offices and much traffic among them can use planes profitably from just the one standpoint of time saved.

66% Longer Service Life with NEW J&L Center Fit Wire Rope

J&L STEEL

All 17 strands in CenterFit are laid up in a single closing operation. Note all strands run in the same direction. Outside strands fit snugly into valleys between inside strands and eliminate crossing of strands as in conventional design. This prevents internal nicking—gives longer wear. Eight outside strands, CenterFit design, give more steel, less void space, greater flexibility, easier handling.



. . . Sets performance record of 15 weeks continuous service on this fast shovel

When a CenterFit wire rope hoisting line on one of the fastest power shovels in the industry recently completed 15 weeks of continuous service, it set a performance record that will interest every wire rope user.

Here are the facts:

OPERATION—Removing overburden at strip coal mine near McDonald, Pa.

CONTRACTOR—Allegheny Contracting Company, Pittsburgh, Pa.

SHOVEL—Manitowoc Speedshovel, making three one-quarter turn passes per minute during operation, each pass to the fullest hoist and "rack-out" of the shovel.

DAILY PERFORMANCE—5000 cubic yards of rock, shale and dirt each 24 hours.

TOTAL PERFORMANCE—236,000 tons of shot-blasted overburden.

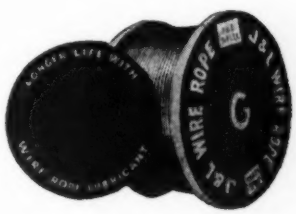
SERVICE LIFE OF HOISTING LINE—15 weeks, compared to usual 8 or 9 weeks—or *66% longer.*

Because it has proved so satisfactory in performance, Allegheny Contracting Company now uses J&L *CenterFit* on a variety of equipment, from bulldozers to drag lines, throughout its widespread mining and excavating operations in Western Pennsylvania.

CenterFit, an exclusive product developed by Jones & Laughlin, is a 17-strand wire rope of advanced design with exceptional performance characteristics. CenterFit with new Bronz-Lube wire rope lubricant, permits 20% faster operating speeds, shows a 25% saving on sheave and drum maintenance, and gives up to ⅗ longer service life! *Yet CenterFit costs no more than ordinary wire rope!*

Your local J&L distributor or J&L warehouse is now stocked with most sizes of this new and better wire rope, that gives longer service at lower cost.

Send for descriptive literature giving complete technical information about CenterFit—and for free Wire Rope Service Record Cards in convenient plastic holder. Address Jones & Laughlin Steel Corporation, Room 429, 311 Ross Street, Pittsburgh, Pa.



JONES & LAUGHLIN STEEL CORPORATION

Equipment you ought to KNOW ABOUT

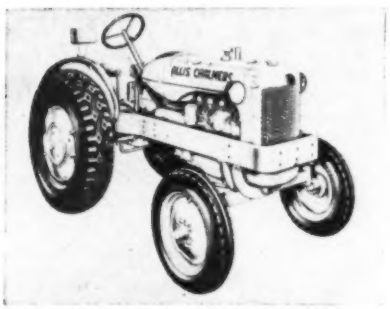
M-R-S Wheel Tractor

Manufacturer: M-R-S Manufacturing Company, Flora, Mississippi.

Claims: Described as the world's largest and most powerful rubber-tired, towing-type tractor, the new M-R-S "125" weighs 13,700 pounds and develops 109 horsepower at the drawbar. It is powered by an International Harvester four-cycle, six-cylinder diesel engine of the valve-in-head type.

The new tractor is available either as power for Mississippi Wagons—the manufacturer's established line of bottom-dump hauling units—or separately as an all-purpose prime mover. Having low-pressure drive tires and approximately 70 per cent of its weight on the drive axle, it is said to possess ample tractive ability for the operation of large-size equipment of many different kinds—including dozers, scrapers, rollers, rippers, etc.

Allis-Chalmers Tractors

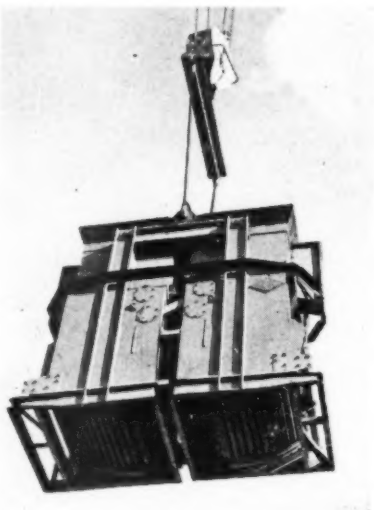


Manufacturer: Allis-Chalmers Manufacturing Company, Tractor Division, Milwaukee 1, Wisconsin.

Claims: Production of Allis-Chalmers' new 1948 model "IB" wheel tractors for municipal and industrial maintenance has started. The new tractors embody many improvements on a similar model produced before the war.

Engineered to provide mechanized service throughout the year, the IB is a husky 2365-pound, 16.3 h. p. unit. Its steel frame provides easy mounting for a wide assortment of tools.

Concrete Pouring Bucket



Manufacturer: Blaw-Knox Company, Pittsburgh, Pennsylvania.

Claims: Developed last year to meet new requirements of U. S. Engineers, this new type concrete pouring bucket is now generally available.

The new design presents a rectangular bucket with air operated roller gates and controllable discharge. The larger sizes are dual units formed by coupling two buckets together. This compartmentation permits placing concrete in two piles without decreasing the rate of production.

Heavy Duty Magnetic Separator

Manufacturer: Eriez Manufacturing Company, 420 Commerce Building, Erie, Pennsylvania.

Claims: The Eriez "Giant" magnet is said to have operating and design characteristics that make it the first permanent non-electric magnetic separator adaptable for general use in the rock products industry.

The "Giant's" newly designed Alnico Castings provide a deep, constant magnetic field which will remove tramp iron from heavy, free flowing material flows. The effective cleaning range varies, depending on the size of material and operating conditions.

Special face plates are built of abrasive resistant steel and are furnished in either flat or stepped pole face. The face plate required depends on the application and the size of tramp iron to be removed.

Two models are available. One is for stationary installation in open chutes, while the other, equipped with hinges and latches is recommended for enclosed chutes. Hinges permit the unit to be swung down for easy cleaning. Both models are fully insulated to prevent magnetic leakage.

Two-Wheel Scrapers

Manufacturer: Be-Ge Manufacturing Company, Gilroy, California.

Claims: Be-Ge "Speedhauls," a new series of two-wheel hydraulic scrapers, are designed for use with industrial type rubber tired tractors. The current models—SS 630 and SS 750—have heaped bowl capacities of 3.2 and 5.4

cubic yards and struck capacities of 2.6 and 4.2 cubic yards.

Cut, lift, dump and spread operations of these scrapers are fully hydraulic. The hydraulic system controlling the blade is

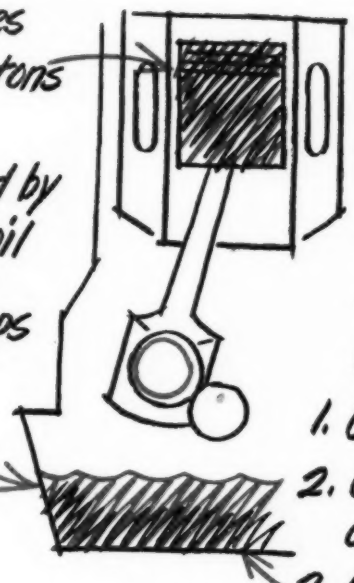
(Continued on page 34)

LUBE MEMO

Crankcase Sludge causes Hot Lube Oil troubles

Hot oil oxidizes fast, gums pistons

Sludge formed by ordinary lube oil insulates crankcase, keeps oil hot



Foreman says try RPM DELO Diesel Engine Lubricating Oil – its compounds stop sludging 3 ways:

1. Oil oxidation slowed up
2. Gum and lacquer cleared out.
3. Contaminants held in suspension – flushed out when oil is changed.

Tell foreman OK to order RPM DELO Oil

DIESEL ENGINE RPM DELO LUBRICATING OIL

STANDARD OF CALIFORNIA • San Francisco, Calif.
THE CALIFORNIA COMPANY • Denver, Colo.
THE CALIFORNIA OIL COMPANY • New York
STANDARD OF TEXAS • El Paso, Texas

DEPENDABLE

For hundreds of Heavy

53 H.P. at 1500 R.P.M.

THE INTERNATIONAL UD-9

DIESEL POWER UNIT

There is no better heavy-duty engine of half a hundred horsepower than this 4-cylinder, valve-in-head International Diesel. It provides dependable, low-cost power for operating rock crushers, conveyors, fans, pumps, hoists, pavers, compressors and many other units of equipment for construction and road building.

The UD-9 develops 53 horsepower at 1500 r.p.m. This is *working horsepower*, for industrial intermittent load applications. And it is economical power because of the operating efficiency and ruggedness of the International design.

Yes, for low-cost, dependable power there is no question about the superiority of the engine or power unit that bears the International name. Your International Industrial Power Distributor is prepared to prove this to your complete satisfaction.

Industrial Power Division

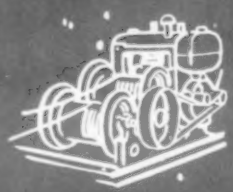
INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue • Chicago 1, Illinois

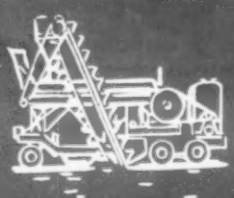
Road surfacing—two UD-9 Diesels power the job economically.

Ditching moves ahead on schedule with UD-9 power.

CRAWLER TRACTORS
POWER UNITS
DIESEL ENGINES
WHEEL TRACTORS

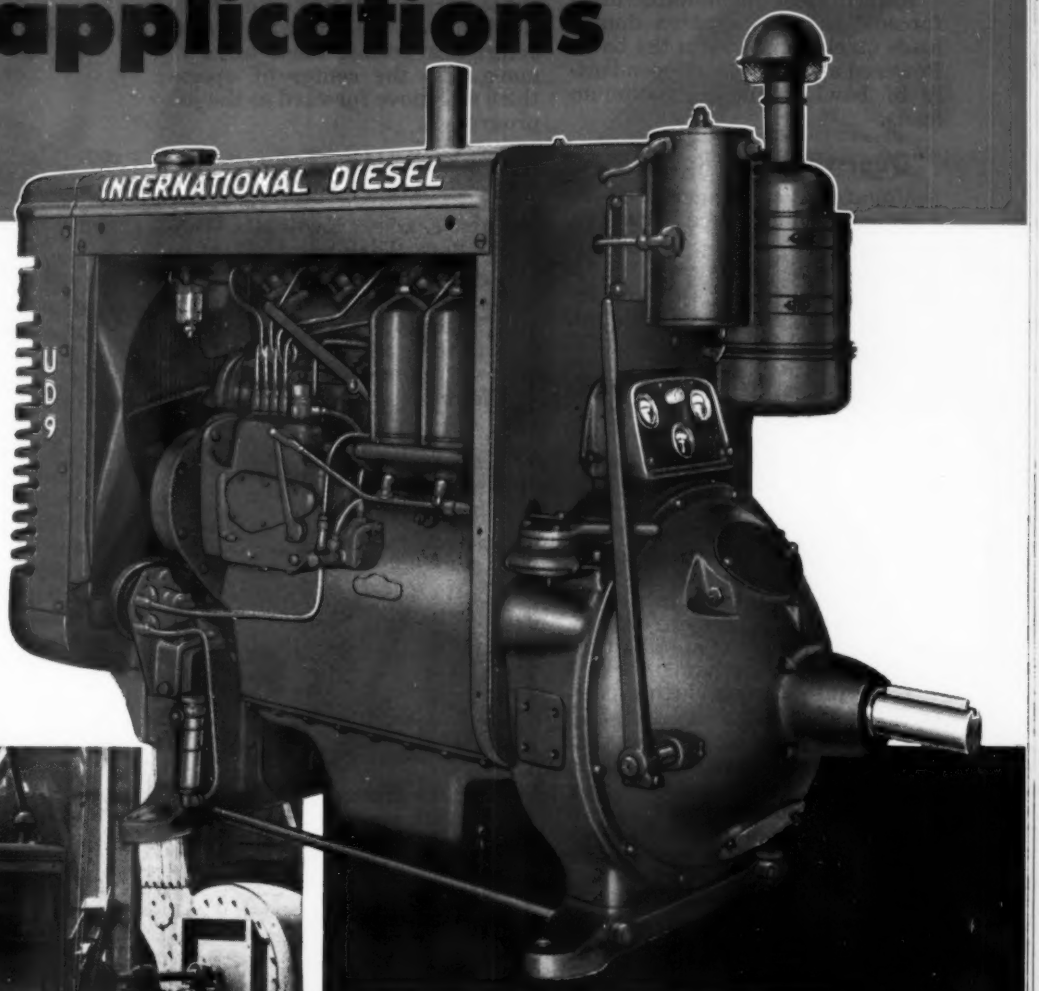
INTERNATIONAL



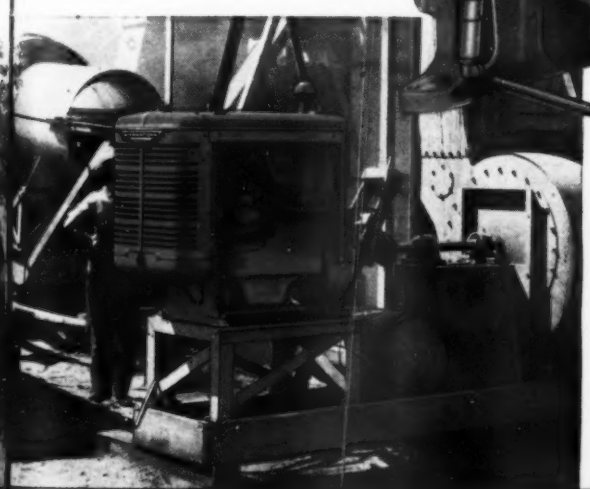


LOW-COST POWER

Duty applications



Dependability is built into International Diesel Power Units. Construction features that make them superior for all heavy-duty powering jobs include: self-contained, all-weather starting system; advanced design combustion for maximum utilization of fuel; single-plunger International fuel injection pump that meters fuel accurately to meet all load conditions as interpreted by a sensitive, variable-speed governor and torque control; induction-hardened crankshaft; precision-type bearings; full-pressure lubrication; by-pass type thermostatic cooling, and adequate, efficient filtering of fuel, lube and air.

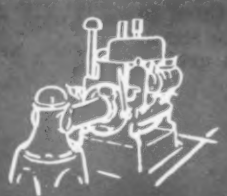


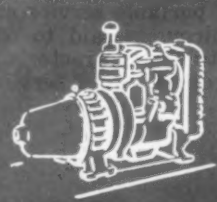
Low-cost power for large-capacity blowers: the UD-9.

Applications of the UD-9 Diesel Power Unit as shown in the pictures to the left are representative of the many and diverse uses to which this dependable power may be put. International Diesels have the lugging ability—the hang on under load—to pull through and deliver the power you require at all times . . . at lowest cost for fuel, lubrication and maintenance.

INTERNATIONAL HARVESTER

Industrial Power





New Equipment

(Continued from page 30)

said to provide positive down pressure for uniform depth of cuts.

According to the manufacturer, forced "roll-out" ejection dumps loads quickly and cleans the bowl. Powered apron rises independently of bowl to insure maximum loads.

"Quarrymaster" Rock Drill

Manufacturer: Ingersoll-Rand Company, Phillipsburg, New Jersey.

Claims: The "Quarrymaster," a new self-propelled rock drill designed for strip, open pit mining, and quarry work is now in production.

The "Quarrymaster" is a complete self-contained unit, consisting of a drill, compressor plant, propulsion equipment, and accessories.

An air-operated piston-type rock drill, the new unit strikes more than 200 blows per minute. Bits used with the "Quarrymaster" are said to be light in weight, long-wearing, and easy to change. In drilling, the bit is automatically rotated by a mechanism which turns it into a fresh cutting position for each blow. The amount of rotation is controlled so that the bit will cut with maximum efficiency. Chips are removed by passing compressed air down through the hollow drill steel, forcing the cuttings up to the surface through the space between the steel and the walls of the hole.

Portable Service Station

Manufacturer: Jax, Inc., 4925 Friendship Avenue, Pittsburgh, Pennsylvania.

Claims: Designed expressly for the fueling and lubricating of

heavy construction machinery, this new portable service station called Kilroy, is said to offer a solution to the contractor's problem of regular, fast service for earth-moving and other heavy equipment.

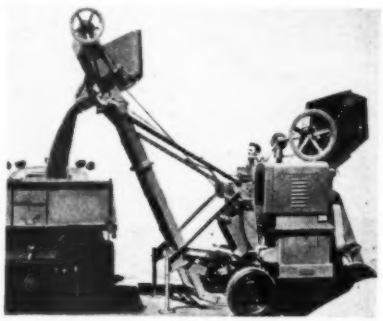
Gasoline, diesel fuel, gas lube, diesel lube, high pressure chassis grease, gear oil, track roll, jack hammer oil, kerosene, water or anti-freeze and air can be dispensed from Kilroy's own tanks. Built-in off-the-highway characteristics permit these units to move into the center of operations and move forward as the job progresses.

Kwik-Mix Tower Attachment

Manufacturer: Kwik-Mix Company, Port Washington, Wisconsin.

Claims: A special tower attachment for discharging bituminous mix above ground level has just been introduced by Kwik-Mix.

Adaptable to either the 10-cubic foot or 14-cubic foot standard



bituminous mixer, the new tower attachment answers the problem of loading bituminous material from a ground level mixer into trucks or for stockpiling.

Operated by a special hoist, the loader is fully controlled by a single lever located on the operator's platform. The hoist is mounted within the mixer frame and powered by the mixer motor. Hoist clutch is disengaged automatically when bucket reaches discharge position.

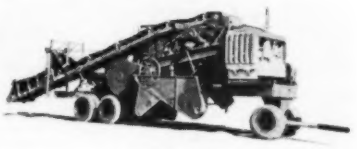
All-Wheel-Drive Conversions

Manufacturer: Marmon-Herrington Company, Inc., Indianapolis, Indiana.

Claims: Production has been initiated on All-Wheel-Drive conversions for the new 1948 Ford models. By placing driving power in the front wheels as well as the rear, these conversions are said to increase the tractive power of the vehicles, enabling them to negotiate deep mud, sand or snow, steep hills, and mountain grades with speed and ease.

Although emphasis is being placed on trucks, all standard 1948 models can be converted to All-Wheel-Drive. Designed specifically for Fords, these conversions are not attachments, but are actually built into each vehicle.

Portable Quarry Plant



Manufacturer: Pioneer Engineering Works, Incorporated, Minneapolis 13, Minnesota.

Claims: A new line of 2-unit, portable crushing and screening plants is now available.

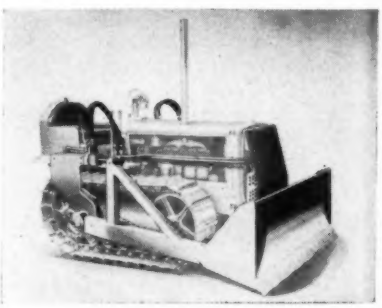
Plant arrangement of the new units is such that primary feeding and crushing is done on the first unit, leaving the second for secondary crushing and screening. It is thus said to be possible to combine balanced units for maximum flow of material through each plant.

An important feature is the split feed arrangement to the screens of the secondary plant. This provides two complete screening surfaces for specification material, thus doubling the plant's screening area.

Hydraulic Bulldozers

Manufacturer: Caterpillar Tractor Company, Peoria 8, Illinois.

Claims: Two new hydraulic-controlled bulldozers, designed for exclusive use with "Caterpillar" diesel "D-2" track-type tractors,



are now on the market.

The new earth-moving tools, the "No. 2A," angling blade, and the "No. 2S," straight blade, bulldozers, are the first designed for

(Continued on page 61)

Le Roi Announces the 31 Clay Digger

— with new design features that reduce both digging and upkeep costs

Here's a digger that has everything you want. Just take a look at all these design advantages:

● **Short 19-inch length** — is responsible for the fine easy-handling balance of the new 31 clay digger.

● **It weighs only 18 pounds** — A man does more work with the new Le Roi 31, and uses less effort.

● **Exclusive new buffer design saves time and money** — This new buffer consists of molded rubber bonded to hardened split steel rings. There is only one piece to handle. Changing tools requires just a few seconds and no effort at all. Your operator does more digging.

● **Air consumption is low, efficiency high** — The 31's new trouble-free valve design uses air sparingly. The high efficiency — that is, the 31's ability to produce a lot of work — is made possible by a unique arrangement of valve-chest differentials.

● **Only the 31 has an integrally-built lubrication system** — Oil from a large reservoir in the handle is metered into the live air stream and carried to every working part.

● **The 31 is sealed from dirt and grit** — the new rubber buffer keeps destructive foreign matter out of the digger.

● **Cylinder life is greatly increased by the use of renewable spacer and chuck bushings** — Moreover, the handle, cylinder, and retainer are made from sturdy drop forgings. That is why Le Roi 31's serve you efficiently for years.

Give your men a clay digger that they like to use — give them a digger that makes them more productive — give them Le Roi 31's.

Your nearby Le Roi distributor can show you how the 31 Clay Digger design pays off in lower costs. Write us for specifications and latest literature.

LE ROI COMPANY

MILWAUKEE 14, WISCONSIN

NEW YORK • WASHINGTON • CLEVELAND • BIRMINGHAM
TULSA • BUTTE • SAN FRANCISCO

RD-16

Le Roi 31 Clay Diggers give you a good opportunity to reduce your digging costs

WHY THE

BECAUSE ... it has a hydraulic torque converter ... a simple unit which automatically balances the power of the engine against its load. Enables the tractor to put in motion any load that can be moved — (available torque for starting a load is 3½ to 4 times that required for normal travel speed with load). Tractor automatically picks up speed as load is moved — not limited to gear at which load can be started.

BECAUSE ... torque converter keeps tractor working at higher average speeds — takes away most of the gear shifting — automatically and constantly keeps tractor at a speed which utilizes full engine horsepower, regardless of load.

BECAUSE ... operation is continuously smooth. Master clutch engages under no load — no jerking, no sudden shock to tractor or operator. Full pulling or pushing power is achieved instantly with velvet-like smoothness. This means fewer repairs . . . longer life of tractor and auxiliary equipment.

Result is more work done — day in and day out — more dirt on the fill at lower cost per yard.

THE HD-19 OUTPULLS, OUTPERFORMS ANY TRACTOR EVER BUILT!

ALLIS-CHALMERS

TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

Originator of the Torque Converter Tractor

HD-19 DOES MORE WORK
more easily, at less cost!

IT'S RUGGED AND TOUGH
BUILT TO OUTPRODUCE AND OUTLAST

Shots from the FIRING LINE

Newark's Airport-Seaport to Get $61 Million Rework

Plans of the Port of New York Authority to rehabilitate Newark's airport and seaport at a total cost of $61-000,000 have been announced by Joseph M. Byrne Jr., vice chairman. The Authority's plans call for expenditure of $50,000,000 on the airport and $11,000,-000 on the seaport and for tremendous expansion of both facilities.

Improvements to the 1,400-acre airport will include acquisition of 800 more acres of land and construction of runways, hangars and a terminal that will house a recreational and shopping center, Byrne said. Long-term improvements, which are expected to be made without interrupting air service, were listed as including construction of an open-parallel, dual runway system with an approximate capacity of 1,000 plane movements a day or 120 in a peak hour. Six runways built in parallel pairs and ranging from 6,400 to 9,000 feet in length, will permit simultaneous landing and take-offs.

Byrne said that the program for 1948 and 1949 at the seaport is expected to total $3,500,000 for property aquisition and improvements. By Sept. 1, he said, the authority will have begun a program of rebuilding 600 feet of wharf and buildings, tracks and roadways at a cost of $375,000. A modern steamship berth will be started at once, he said. The Newark seaport will ultimately have 22 steamship berths, some of them modernized by next year. A large amount of open area in the port will be ideal for lumber and other bulk cargo that does not now flow through the port in large quantities.

Byrne predicted that development of the seaport and airport will furnish employment for 29,000 persons on an annual pay roll of $70,000,000. The development program, he said, will bring a construction pay roll of $20,000.

U. S. Road Expenditures Up

During 1947 an estimated $1,154 million of highway construction was put in place throughout the United States, a 63% increase over the 1946 expenditure of $706 million, according to the Federal Works Agency. Activity on all Federal-aid highway programs accounted for slightly more than half, or $586 million, of the 1947 total. Independent State work amounted to $246 million, while work at the local level accounted for an estimated $322 million. Activity on Federal-aid projects registered the largest gain over 1946—82% followed by local work—up 49%; and independent State—up 46%.

• Berliners are still clearing rubble from their main streets. Here a ½-yd. Bucyrus-Erie 15-B shovel loads debris to a 2-yd. Dodge truck in front of the burned-out Reichstag.

Predict Inability to Match Federal Funds in Nebraska

Gov. Val Peterson has declared that on the basis of present costs and estimates of future revenue, Nebraska will not be financially able to match about $2,750,000 of available federal-aid road money between now and 1950.

Because costs have risen faster than gasoline tax collections and motor vehicle fees, he told a civic group in Lincoln, Nebraska's ability to match and the amount of available federal aid is three times as wide now as it was 15 months ago. He pointed out that at the beginning of 1947, it was estimated that available revenue would fall $850,000 short of matching federal money allocated to the state by the middle of 1950.

Maintenance costs, he added, have risen from an average of $3,000,000 a year to nearly $5,500,000 a year since 1945. All costs have risen about 100 per cent, he said. Meanwhile gasoline tax money coming into the State Highway Department has increased from about $7,750,000 a year to $8,200,000.

Reclamation Offers Summer Posts to 350 Students

A recruitment campaign at colleges and universities in Oregon, Washington, and Idaho will offer between 350 and 400 engineering students full or summer-time employment on Bureau of Reclamation projects in the Pacific Northwest, according to Victor Rushfeldt, personnel director. The positions are in all branches of engineering, but particularly in civil, mechanical, electrical, and general, he said. Salaries will range from approximately $2200 to $3400 per year.

"To accomplish the vast amount of construction work authorized by the Congress, the Bureau now and in the future has need for persons having technical knowledge and practical ex-

(Continued on page 42)

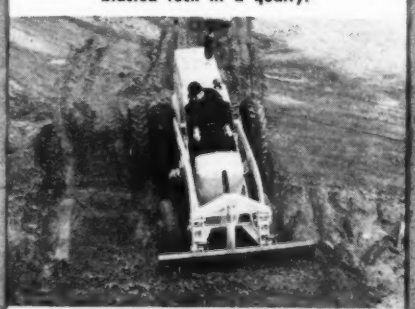
HOUGH PAYLOADERS

SAY "HUFF"

PATENT

Pay Every Day

DIGGING POWER — Model HF loading blasted rock in a quarry.



BULLDOZER Blade attachments, easily attached, increase Payloader usefulness.

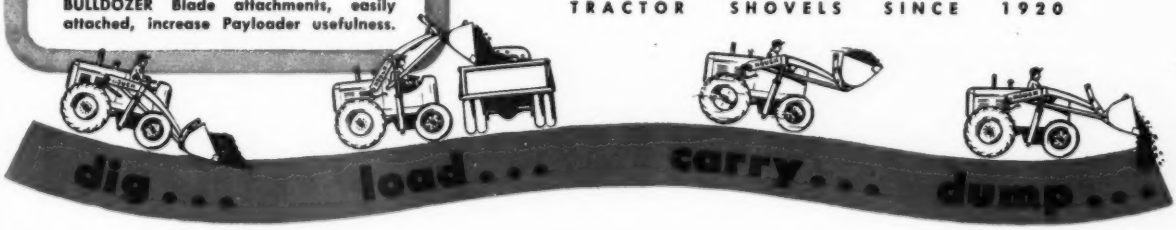
Payloaders are so versatile and so fast *to* the job and *on* the job that there is always work for them to do, winter or summer. They dig, grade, stockpile, load trucks, move dirt and materials, lift, carry, pull, remove snow . . . pack more digging power, mobility, operator visibility, versatility and work-ability than heretofore available in a tractor shovel.

Payloaders are completely Hough designed and built from the tires up, the product of 27 years experience in tractor shovel manufacture. Three sizes are now available — 10½ cu. ft., ¾ yard and 1¼ yard. All have the efficient Hough hydraulic bucket control that dumps and closes the bucket by power so that speed of bucket-dump and instantaneous bucket-closing are fingertip controlled by the operator. Bulldozer Blade and Crane Hook attachments are available. Your nearby Hough distributor will be glad to give you complete Payloader performance data. See him today or write us for full information.

THE FRANK G. HOUGH CO.

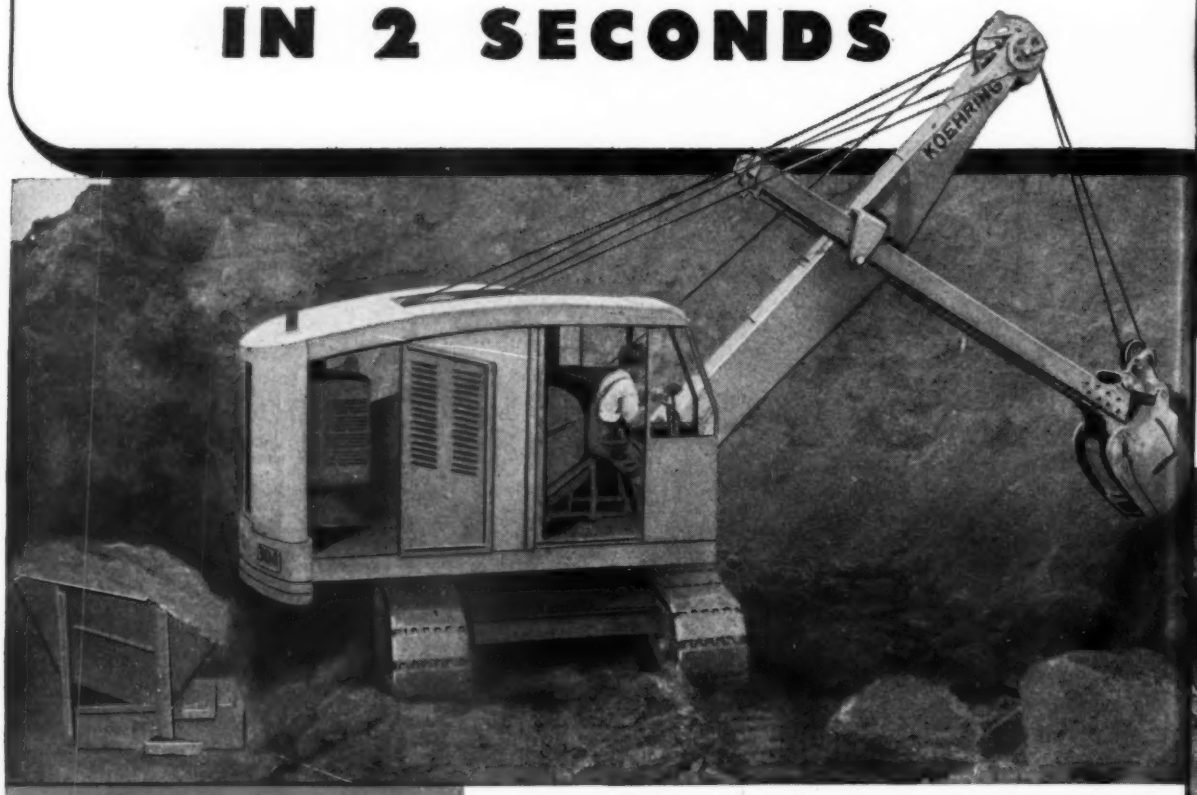
708 SUNNYSIDE AVE., LIBERTYVILLE, ILLINOIS

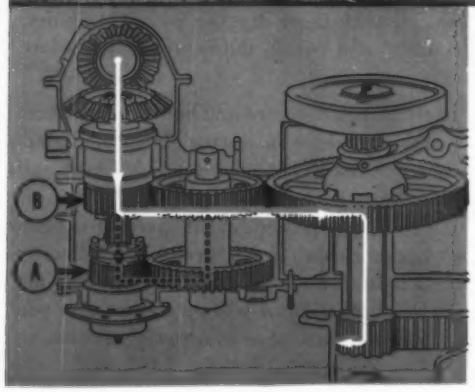
TRACTOR SHOVELS SINCE 1920



Shifts into high-spee

IN 2 SECONDS





How Speed Changer Works:
Speed selector lever in operator's cab moves sliding gear A up or down along splined shaft. With gear A in down position, you get standard swing speed. (Black line). With gear A in up position, its jaw clutch engaging floating gear B, you get high-speed swing. (White line)

On long-swing shovel jobs, quick shift steps up production 5 to 10%

Two-speed swing is a standard built-in feature of every Koehring 304 (¾ yd. as shovel). Speed selector lever in operator's cab speeds up swing 20% over standard at any time. High-speed swing pays important production dividends on many shovel jobs, particularly when swing radius exceeds 90 degrees.

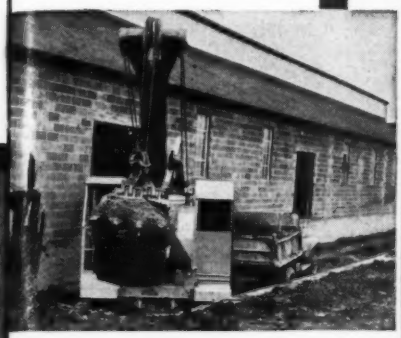
When you're feeding the hopper for the crushing plant, starting a cut, or whenever you can't get hauling units as close to shovel as you'd like, quick shift to high speed swing steps up production from 5 to 10%.

Changing swing speed takes only 2 seconds — just long enough to shift speed selector lever. Two-speed swing is standard on the Koehring 304 . . . you pay not a penny extra for extra production.

KOEHRING HEAVY DUTY

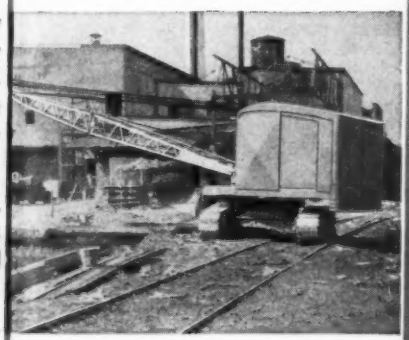
KOEHRING COMPANY

ewing



In close quarters, trucks often can't be spotted for short swing. High swing speed of Koehring 304 cuts swing time approximately 20%, gets extra yardage every shift.

Highway work where shovel swing radius often is longer than 90 degrees, calls for high swing speed. On jobs like this, Koehring 304 can step up production 5 to 10%.



Shifting back to standard swing speed, when you're working Koehring 304 as clamshell or crane, takes only 2 seconds. You can select best swing speed for each front end attachment for any type of work.

MILWAUKEE 10, WISCONSIN

Johnson EXTRA TONNAGE at NO EXTRA COST

FASTER OPERATION

Large diameter sheaves, with fully sealed needle bearings, reduce friction power loss, deliver full power to cutting lips to provide faster, smoother operation.

BIGGER LOADS

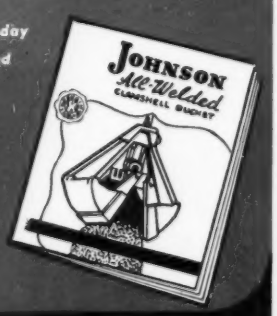
Because all-welded construction improves bucket balance and lowers center of gravity, Johnson bucket teeth dig in straight and deep. Deep, big bites get capacity load every time, in any material.

LONGER LIFE

Stronger and longer-lived because all-welded construction, by saving weight on other parts, permits use of heavier lips, heavier sides, heavier bottoms. Protector plate below lower sheaves keeps sheaves clean, prolongs sheave life. Hard manganese cutting edge, welded to heavy lips, actually gets tougher with use.

¾ to 2½ yard sizes. General Purpose, Wide Rehandling and Heavy-duty Digging Type.

Write today illustrated catalog.



THE C. S. JOHNSON COMPANY

KOEHRING SUBSIDIARY CHAMPAIGN, ILLINOIS

Shots

(Continued from page 38)

perience in many engineering specialties," Rushfeldt declared. "In order to partially satisfy our immediate needs for sub-professional personnel and to provide a reservoir of trained professional engineers, the Bureau is undertaking an Engineer Trainee Program, through which students in their sophomore and junior years may be employed during the summer months, given on-the-job training, and upon graduation go right into professional engineering positions."

It is contemplated that a nation-wide examination for permanent appointment to the position of engineering trainee in the Bureau, at salaries ranging from $2200 to $2400 will be announced this spring in sufficient time to allow engineering students in the various colleges to enter upon duty next summer.

The Bureau is seeking to employ on a full-time basis about a hundred engineers at the P-1 rating, $2650 per annum, and about 35 at the P-2 rating, $3400 per annum.

Start Work on Russian Dam

Pravda, Moscow, announces construction has begun on a gigantic dam and hydroelectric power station near Gorky on the Volga River. Bulldozers are already at work on the site, the entire project requiring the removal of 30,000-000 cubic yds. of earth—twice as much as was necessary in building the great Dnieper dam and power plant. The dam across the wide Volga will be seven miles long and is the third step in the overall program of harnessing Volga River power.

Name Region 5 Director

Howard E. Robbins, who has been serving as acting director of Reclamation Region No. 5 for seven months, has been named director of the region which comprises Texas, Oklahoma, most of New Mexico, and parts of Kansas and Colorado, according to Commissioner of Reclamation Michael W. Straus.

During his tenure as acting director, investigations were completed and reports were made on the Nueces project, the Platoro reservoir on the San Luis project, and the Middle Rio Grande project, and active investigations were being carried out on several other important reclamation projects, including the Valley Gravity project. The W. C. Austin project in Oklahoma, now partly in operation, is the easternmost Federal irrigation project in the country. The Rio Grande and Carlsbad projects are among the first undertaken under the Reclamation Act of 1902.

A career engineer with the Bureau of Reclamation, Mr. Robbins began as laborer in 1916 and worked his way through various grades and positions. Among important previous assignments were that of project engineer on the Valley Gravity project, in southeastern Texas, construction engineer on the W. C. Austin Project, and office engineer on the Colorado Big-Thompson project in Colorado and on the Salt River project in Arizona. He also served in the designing section of the Office of the Chief Engineer at Denver at the time Hoover Dam was being designed.

Mr. Robbins succeeded Wesley R. Nelson at Amarillo when the latter was appointed Assistant Commissioner of Reclamation and assigned to Washington.

Construction Up 28% in First Two Months

Contracts awarded for construction in the thirty-seven states east of the Rocky Mountains during the first two months of this year topped the dollar total of awards for the corresponding months of last year by 28 per cent, according to F. W. Dodge Corporation. February's awards by dollar volume were 11 per cent greater than January's and 54 per cent greater than those of February of last year.

The dollar valuation of contracts awarded in the first two months of this year east of the Rockies was $1,297,173,000 distributed by the following classifications: nonresidential

YOU'LL FIND IT ON PAGE 20

Among general contractors, one of the most popular Blaw-Knox Buckets is No. 672, rated ¾ Cu. Yd. It's a general purpose two-line, lever arm type that digs like a mole. On page 20 of Catalog 2076, there's a photo of it at work, and on page 34 you will find a complete table of weight, measurements and other data you need. Of the more than 100 types and sizes of Blaw-Knox Buckets, this may be the one to speed your work. Write us for *Catalog No. 2076.*

BLAW-KNOX DIVISION
OF BLAW-KNOX COMPANY
2074 Farmers Bank Building
Pittsburgh 22, Pa.

Bucket Selection Made EASY
Catalog 2076

BLAW-KNOX CLAMSHELL BUCKETS

Putting a load like this on the General L. C. M. is *good* business. For this tire is the "strong man" of the industry. In one operation after another it has proved its ability to move tremendous loads over soft or hard surfaces without breaking down or getting clogged up. The extremely thick, tough tread cushions the tire against cuts and snags . . . protects the carcass from hazards common to construction work. With every turn of the wheel on a tough job this longer wearing, harder working, stronger tire saves you money.

To move loads and equipment *Faster and at Lower Cost*...have your General Tire dealer specify, install and service the tires for the job!

Specialists in any field do a better job. That's why this combination of power wheel tires and rolling wheel tires, designed specially for tractor graders, save time and money. The big, low pressure tractor grader tire rides high in sticky going . . . rolls easily through mud, sand or gravel . . . cleans and grips forward or backward . . . withstands rocks, ruts and ridges. For front or trailing wheels of regular, or leaning wheel type graders the free rolling, tapered continuous ribs of the ribbed grader tire resists side slip, makes steering easy.

The GENERAL TRUCK TIRE

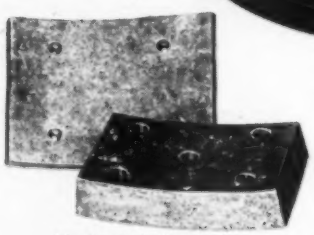
THE GENERAL TIRE & RUBBER CO.

AKRON, OHIO

• A new dynamometer, said to be capable of determining the horsepower requirements of the largest heavy-duty earth-moving equipment now manufactured, has been designed and built by the Firestone Tire and Rubber Co. The new rig, with a draw-bar measurement capacity of 100,000 pounds, is shown clocking the pull of a butane-burning "A" Tournadozer (right) with the assistance of three "C" Tournadozers at Longview, Texas. In this 4 to 1 tug of war, the A was reported to keep the wheels of the three C's sliding.

GATKE BRAKE MATERIALS for TOUGH JOBS

GATKE Moulded Swing Friction



Moulded Brake Blocks

GATKE Clutch Facings with Integrally Moulded Gear Teeth

Tremendous Power—no let down when things get hot.

Smooth Action—no grabbing.

Long Wear Life beyond comparison.

These are a few of many extras built into GATKE *CUSTOM-BILT* Brake Materials that help speed production and avoid delays.

RESULTS TALK. Just use GATKE Brake Materials on your toughest applications and compare performance with the best you ever had.

Whatever the application, send for the GATKE Recommendation.

GATKE CORPORATION

232 N. La Salle St., Chicago 1, Ill.

building $512,939,000; residential $470,348,000 and heavy engineering works $313,886,000.

Percentagewise, the gains during the first two months of this year compared with last were greatest in heavy engineering awards, which were up 54 per cent. Nonresidential awards showed a 49 per cent gain and residential awards were up 1 per cent. More than a third of all contracts awarded during the first two months were for projects classified as publicly owned.

The gains in contracts awarded during the first two months were most pronounced in the reporting districts comprised of western Missouri, Kansas, Nebraska, Oklahoma; eastern Missouri, southern Illinois, western Tennessee and Arkansas; upstate New York; Minnesota, North and South Dakota; southern Michigan; the Middle Atlantic states; and western Pennsylvania and West Virginia.

Three areas showed decline in total volume during the two-month period compared wtih a year ago. These were: New England with a decline of 23 per cent; metropolitan New York and northern New Jersey, down 3 per cent; and southwestern Ohio and Kentucky, off 11 per cent.

New Oklahoma Chairman

New chairman of the Oklahoma highway commission is John M. Craig, Idabel businessman and civic leader. He succeeds Robert Barr of Dover. Mr. Craig, director of the Dierks Coal and Lumber company of Kansas City, holder of extensive land interests in Southeast Oklahoma, has been serving as vice-chairman.

In that capacity he will be succeeded by Paul V. Carlile, Sallisaw attorney, who has been secretary. C. H. Mullendore, Miami banker, succeeds Mr. Carlile as secretary. The act creating the commission provides for one year tenure of commission office and no officer is qualified to succeed himself.

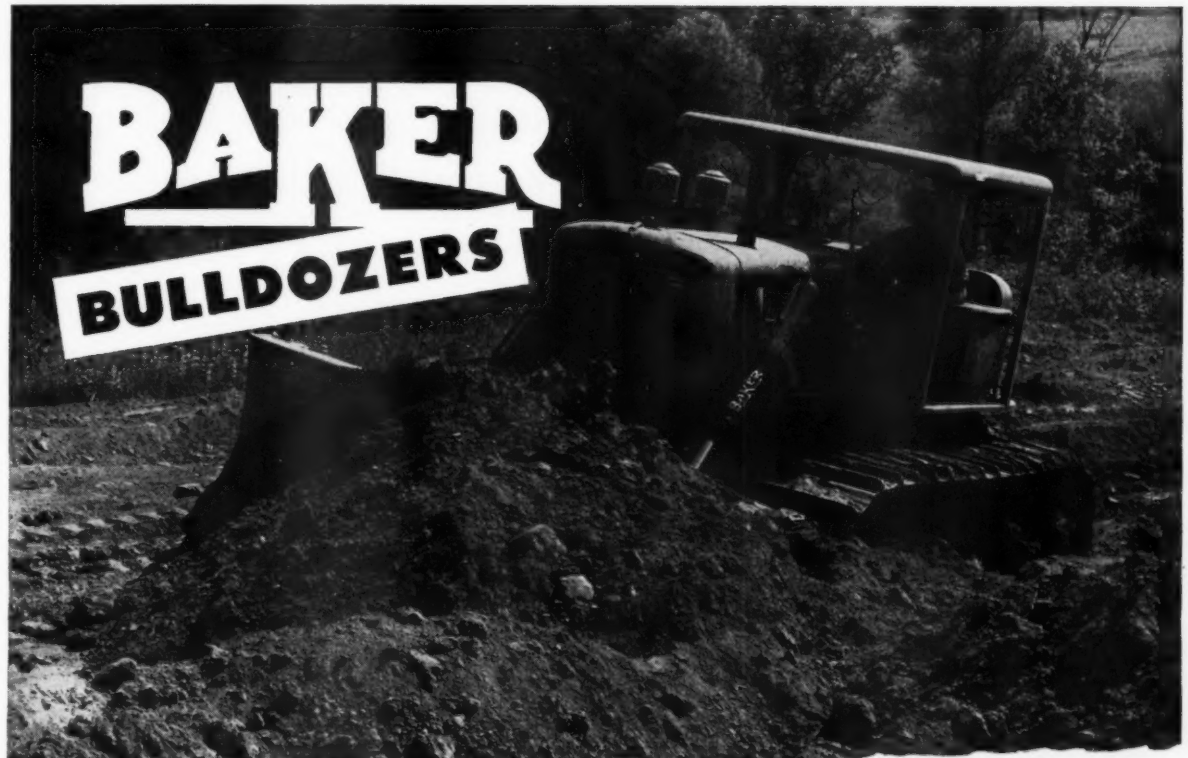
The present commission assumed office a year ago by appointment from Gov. Roy J. Turner following legislative enactment reorganizing the board and extending its membership from three to eight, one representative for each Congressional district.

Kansas Must Find Extra Road Funds Says Governor

"This year and next will perhaps be the most critical Kansas has ever faced in making decisions on its highway policies and finances," according to Gov. Frank Carlson. Unless "some form of extra revenue is found," he said, the Kansas highway system "will deteriorate and we will eventually lose the investment we have made in it."

The governor pointed out that the state's special 1-cent gasoline tax, enacted in 1945 in addition to the state's regular 3-cent tax, can be used only to match funds provided by the 1944

(Continued on page 48)



GET THE JOBS DONE *FAST*

Why "send a boy to do a man-sized job?" Tackle your big, tough jobs with the huge Allis-Chalmers HD-19 and Baker 'dozer — the most powerful team on earth. Get your jobs done faster and at lowest cost.

Plenty of heft for heavy duty, plenty of weight for all weather traction, plenty of power for tough going, plenty of speed for faster operating cycles—all add up to plenty of profit on any job.

Before you buy any bulldozer — check Baker.

It's specifically built into the HD-19 — to match its speed, power and weight. It's the biggest bulldozer in the business — it's the biggest yardage producer in the history of earth-moving.

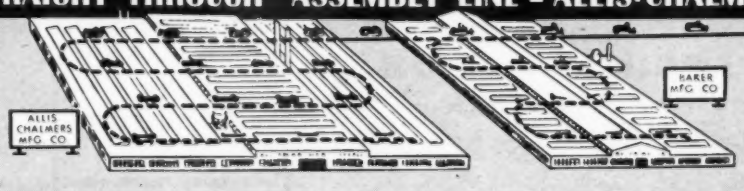
Baker Bulldozers and Gradebuilders are available for the HD-19 with either hydraulic or cable control. See your Allis-Chalmers dealer today.

BAKER MFG. CO., Springfield, Ill.

BAKER

BAKER They Go Together! AC

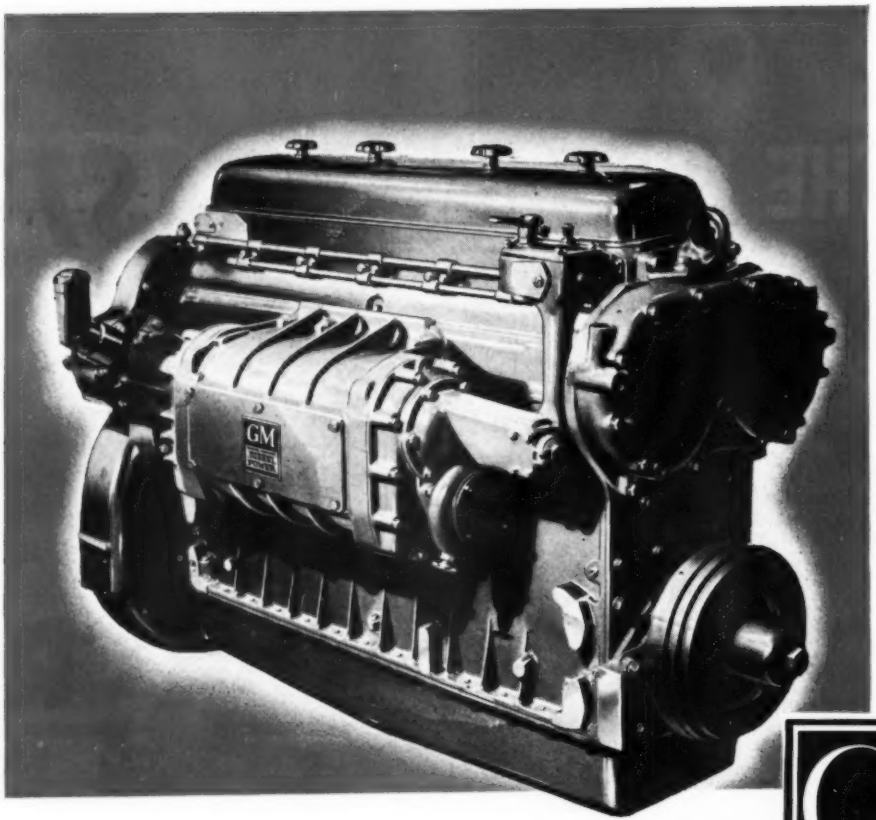
"STRAIGHT THROUGH" ASSEMBLY LINE – ALLIS-CHALMERS TO BAKER TO YOU!



The modern Baker plant with its completely equipped fabricating, machining and blacksmithing shops, adjoins the Allis-Chalmers crawler tractor plant.

When you order an A-C tractor with Baker bulldozer or gradebuilder, your tractor leaves the A-C assembly line, crosses a narrow court and goes on the Baker final assembly line.

GREAT
FOR FINE



Diesel Brawn
Without
the Bulk

DETROIT DIESEL ENGINE DIVISION

SINGLE ENGINES.. Up to 200 H.P. **DETROIT 28, MICHIGAN** MULTIPLE UNITS.. Up to 800 H.P.

GENERAL MOTORS

GM
GENERAL MOTORS
DIESEL
POWER

DIESELS

EQUIPMENT

Today the list of manufacturers, who offer their contractors equipment powered with General Motors "71" Diesels, reads like a "Who's Who" of the industry. They know what these powerful, modern 2-cycle Diesels can do.

They know that these engines with all their power are compact and fit in available space—that they do their work easily and fast. Their 2-cycle operation makes them responsive and quick to pick up under load. They step up the work done by any kind of equipment.

GM Diesels have been designed for easy servicing. Pistons, liners, valves, and many other parts, are the same for every size Series 71 engine, so there is the maximum interchangeability of parts.

No wonder, then, that America's finest contractors' equipment is being furnished with the General Motors Series 71 Diesel engine.

LEADING MANUFACTURERS OF THE FOLLOWING EQUIPMENT OFFER GM SERIES 71 DIESEL ENGINES IN THEIR PRODUCTS:

Air Compressors
Arc Welders
Asphalt Plants
Buses
Cableways
Cranes
Distillation Equipment
Ditchers
Draglines
Dredges
Earthmoving Loaders
Evaporation Units
Feed Mills
Fire Pumps
Hoists
Industrial Locomotives
Locomotive Cranes
Logging Loaders
Logging Yarders
Mining Pumps
Motor Graders
Off-The-Road Vehicles
Oil Field Equipment
Pavers
Power Scrapers
Pumps
Road Rollers
Rock Crushers
Rotary Soil Tillers
Saw Mills
Screening Plants
Shovels
Soil Stabilizers
Stave Mills
Tractors
Trucks
Wellpoint Pumps

IT'S WISE FOR YOU TO SPECIFY GM DIESEL

Shots

(Continued from page 44)

federal-aid act. "In 1947," he said, "the 1-cent tax yielded a little over $6,000,000 and all of that money went to match postwar federal aid.

"Our other income came to $19,000,000 and after we had met our maintenance bill and met all of the statutory expenses we had $3,000,000 left for state construction. This was five per cent more than in 1946 and both of the past two years represent the first time that the highway commission has spent a sizable amount for state construction."

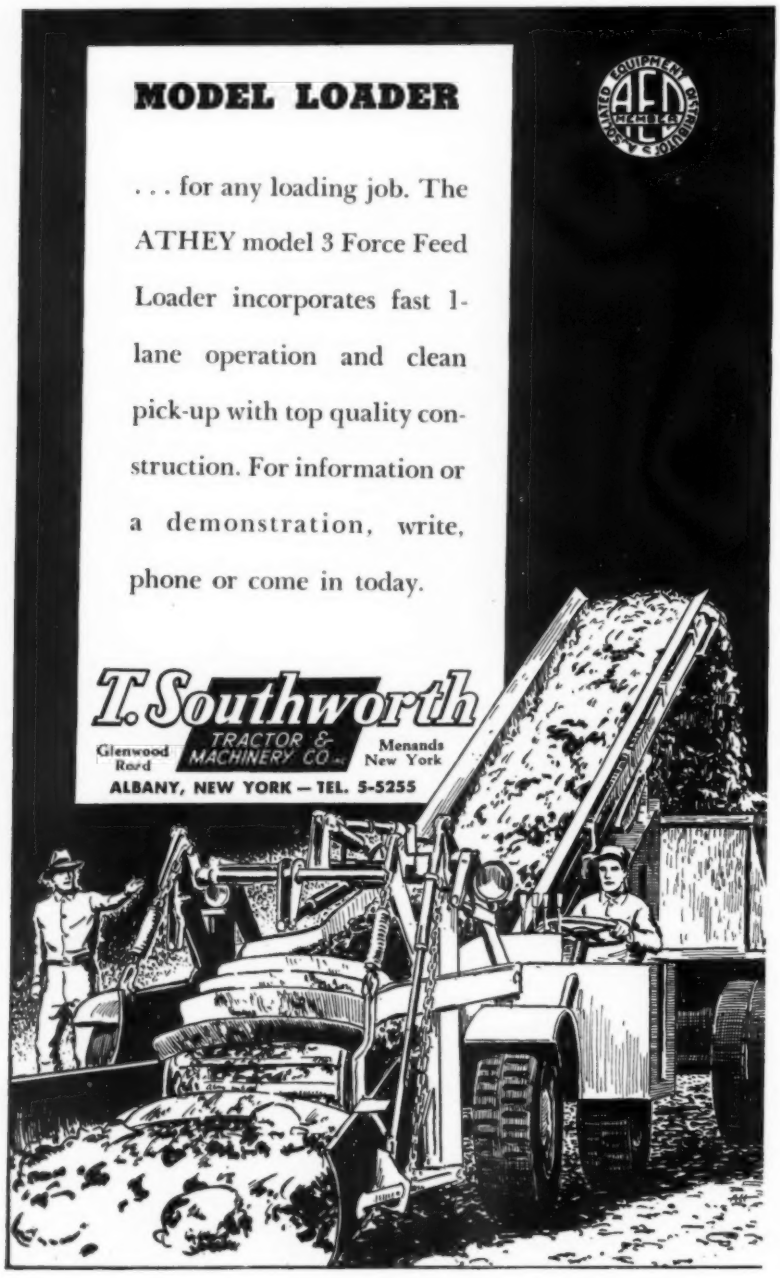
New Kentucky Appointments

Kentucky State Highway Commissioner Garrett L. Withers has appointed M. Forrest Johnson, Frankfort, director of the department's division of maintenance succeeding H. H. Palmer.

Johnson, a registered engineer, has had 25 years service with the highway department. He started as a rodman in 1922, served as resident engineer and assistant district engineer and from 1943 to 1945 was a principal engineer in the maintenance division.

Palmer came to the department in 1945 from Ohio. He was promoted from assistant director to director of maintenance in April, 1947. He will be reassigned to other duties within the department.

Mr. Withers recently made permanent the apointment of W. D. Barrows, Providence, as director of equipment. Barrows earlier was named temporary acting director to succeed Thomas J. Ready, Jr., Lexington, resigned. Barrows has served eight years as a member of the state board of registration for professional engineers.


MODEL LOADER
. . . for any loading job. The ATHEY model 3 Force Feed Loader incorporates fast 1-lane operation and clean pick-up with top quality construction. For information or a demonstration, write, phone or come in today.
AFD
T. Southworth
TRACTOR & MACHINERY CO.
Glenwood Road
Menands New York
ALBANY, NEW YORK — TEL. 5-5255

Place River Silt-Sand for New Refinery Site

By RAD NELSON

Missouri river water is moving more than 400,000 cu. yds. of sand and silt over the dike which protects the Phillips Petroleum Company refinery at Kansas City, Kansas, to reclaim about 30 acres of land for the site of an 8-million-dollar expansion program.

Dredging operations are now underway on the river off the oil company's property. The Edward E. Gillen Construction Company of Milwaukee is using a 1,000-hp electric dredge in the swirling muddy river waters to pump the sand-silt-water mixture through a mile-long 18-in. pipeline to land which adjoins present Phillips property.

An average of six feet will be added to the level of the site when the nearly half million cubic yards of sand have been pumped out of the river and gushed over the added acreage. A battery of large electric pumps is being used inside the dike to remove the water after the fill has settled.

Anticipate June Completion

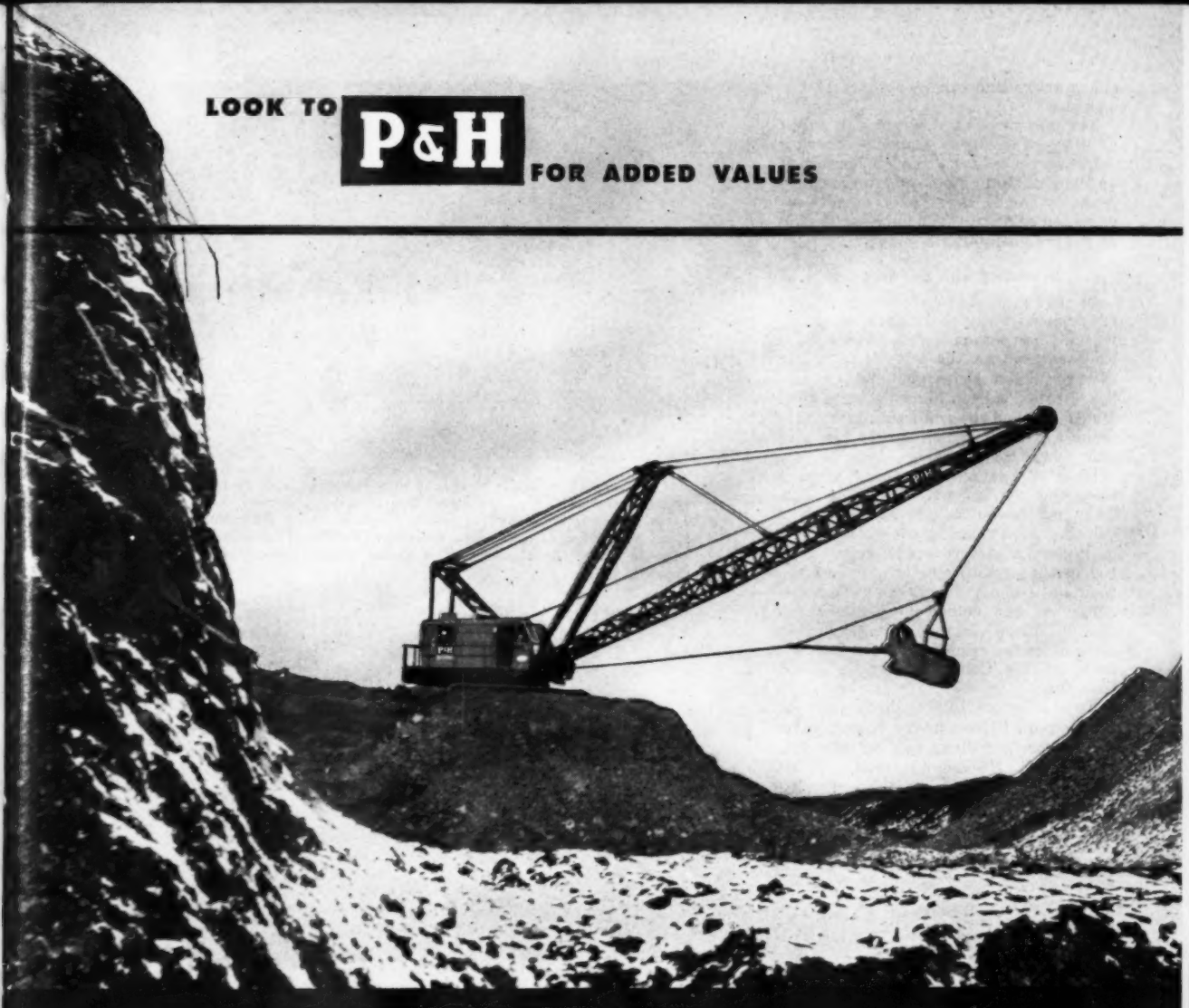
Captain Frank A. Rogall, Gillen official in charge of the dredging operations, has a crew of more than 60 men working on a 24-hr. schedule until the job is completed. His assistant, William MacNeil, said the fill should be finished in June. As each section of the fill is finished, refinery building contractors will begin driving piling supports for giant catalytic cracking, catalytic polmerization, and vacuum units to be erected on the site. The sand fill will include a base for railroad tracks to be laid along the dike to service the refinery.

Right-Hand Driving Now Universal in Americas

Uruguay, last American country to cling to the practice of driving on the left, recently started conforming to the right-hand rule of the road. Now the Pan-American motorist can laugh at international borders—unlike his European counterpart who must swing from one side of the road to the other as he drives across some of the borders of the countries of the Old World.

Uruguay's action in making the rule of the road unanimous in the Americas raises the question why mankind did not agree on such a simple thing in the first place. Why did some nations adopt

LOOK TO **P&H** FOR ADDED VALUES

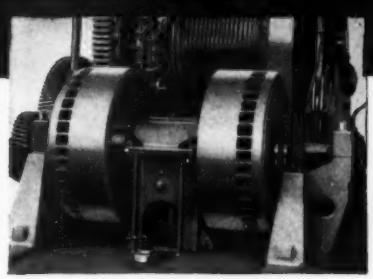


'HE SWING'S THE THING!

And here's the kind of swing that's sweet music to production men on steady digging. It's the Magnetorque on P&H 1055 that transmits power for swinging—without mechanical contact—without wear—without time lost for clutch adjustments—without the high cost of lining replacements.

There's nothing to compare with the P&H Magnetorque swing—with its smooth, velvety action—with its simple construction.

If you haven't seen the 1055 in action, write us. We will gladly tell you where the nearest machine is located.



THE P&H MAGNETORQUE transmits power for swing electromagnetically — replaces swing frictions — eliminates the maintenance and repair work that goes with them. The Magnetorque unit will last the life of the machine.

P&H EXCAVATOR

4517 W. National Ave.
Milwaukee 14, Wis.

HARNISCHFEGER CORPORATION

one practice and others do exactly the opposite?

The answer lies deep in the mists of time when men stopped carrying loads on their backs and on horseback and began using carts and wagons. It probably traces, says the National Geographic Society, to that universal badge of the wagoner—the horsewhip.

Originated with Box Wagons

In old England the predominant type of transport was the simple four-wheeled box wagon with a board across the front end for the driver's seat. The driver sat on the right end of this board so as to keep his whip hand free. He could wield the whip with more ease from the right side because his arm and whip would swing clear of the vehicle. When two of these wagons met, the drivers pulled to the left. They did this so they could see if their vehicles were clearing each other.

England's American Colonies aped the mother country in the rule of the road until about 1750. Conditions peculiar to the colonies — greater distances, more long hauling, bigger freight loads—resulted in the development of the Conestoga wagon about that time.

Two or, more likely, three pairs of horses pulled these heavy wagons. The driver, or postilion, sat on the left rear horse. He did not choose to sit on the right rear horse because then his own body would be in the way when whipping the horse to his left.

From the left rear horse, however, he was in a position to strike with his whip hand at all the horses. Naturally he kept to the right when meeting other vehicles, for only on that side could he watch the space between the passing wagons to see that they cleared each other. In time the ponderous freight wagons forced all other types of vehicles to conform to their rules of the road.

—Highway Research Abstracts

• For widening a 5-mile haul road to a new strip mine on top of Keen Mountain, south of Oakdale, Va.. Universal Construction Company, Richland, is using this 1-yd. Lorain L-80 shovel loading to 6-yd. Koehring Dumptors. The hauling units take the unblasted rock down the average 15 percent grade and dump over the edge to widen the shoulder. The shovel dumps largest pieces directly into the shoulder.

New AGC Research Unit

A Department of Research is being created in the national office of The Associated General Contractors of America effective April 1, 1948 according to Managing Director H. E. Foreman. Principal purposes will be to study and correlate information on contract documents and specifications; uses and cost of owning construction equipment; and construction statistics.

DIG REAL DIVIDENDS!

WELLMAN
Williams Type
Welded Buckets

Operators prefer the Wellman Bucket for its balance, easy handling, and digging power. Owners prefer the Wellman Bucket for its bigger payloads, lower maintenance cost. These features are not accidental. Wellman pioneered in welded construction of rolled steels which make these buckets lighter, stronger, for greater yardage at lower costs. In all types and sizes, you'll do better with a Wellman!

There's a Wellman Bucket for every service

THE WELLMAN ENGINEERING COMPANY
7002 CENTRAL AVENUE CLEVELAND 4, OHIO

"WAYNE CRANE WORKS *FASTER* — — — *GETS US TO MORE JOBS*"

. . . says PAUL J. FREDERICK,
Indiana Construction Man

"We use other material moving equipment, but have found that our two Model 22 Wayne Cranes work faster and get us to more jobs. Wayne Crane's rubber-tired mobility and 5½ r.p.m. swing enable us to maintain a highly profitable working schedule at an exceedingly low operating cost. In both dragline and clamshell operations we have an efficient and rugged "team" in our two Wayne Cranes."

PAUL J. FREDERICK

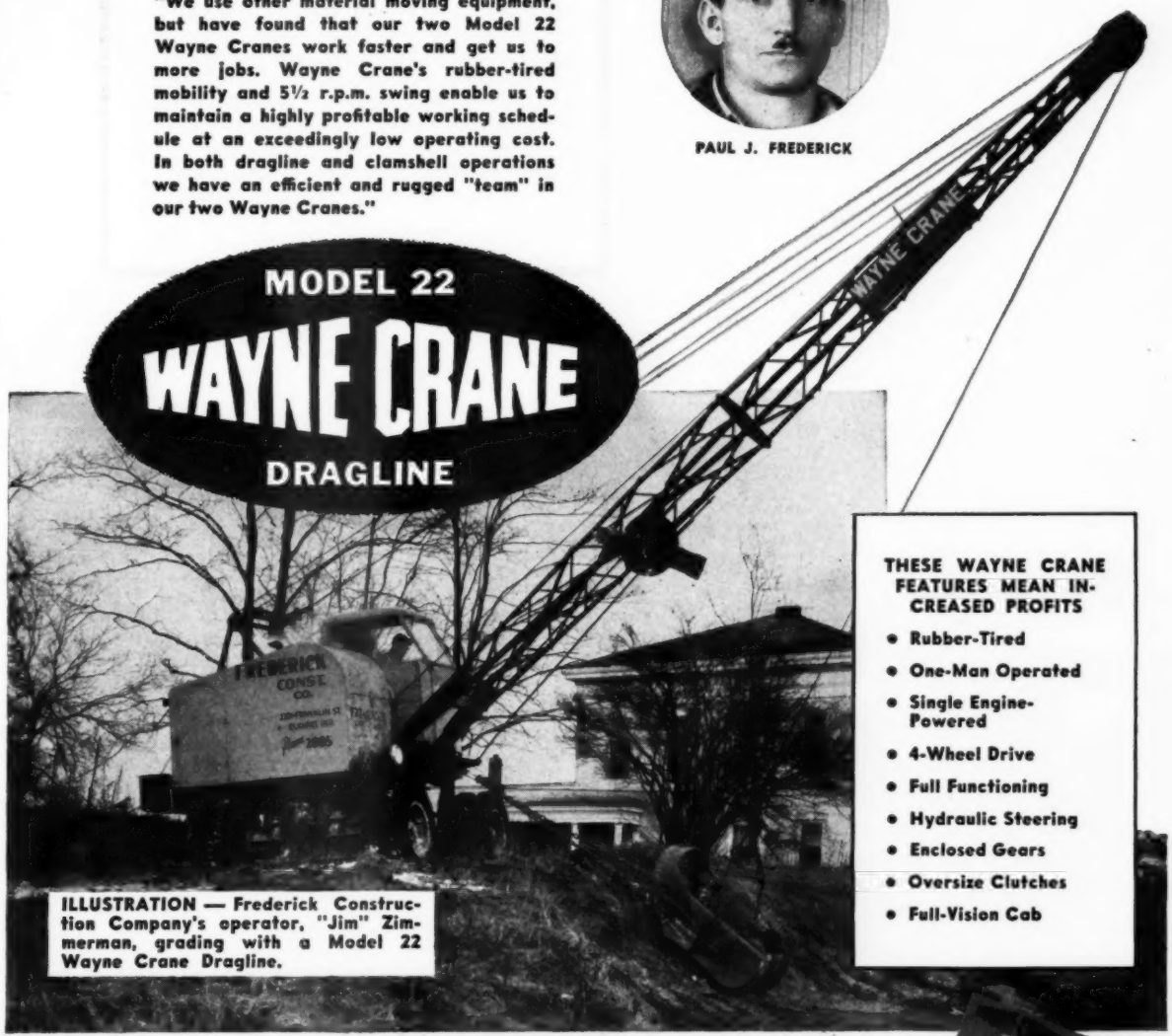


ILLUSTRATION — Frederick Construction Company's operator, "Jim" Zimmerman, grading with a Model 22 Wayne Crane Dragline.

THESE WAYNE CRANE FEATURES MEAN INCREASED PROFITS

- **Rubber-Tired**
- **One-Man Operated**
- **Single Engine-Powered**
- **4-Wheel Drive**
- **Full Functioning**
- **Hydraulic Steering**
- **Enclosed Gears**
- **Oversize Clutches**
- **Full-Vision Cab**

Easily converted, Wayne Crane is really SIX machines in ONE!

POWER SHOVEL • TRENCH HOE • DRAGLINE • CLAMSHELL • UTILITY CRANE • MAGNET CRANE

Construction men everywhere are talking about Wayne Crane's mobility, efficiency and economy.

Catalog No. 406 tells the whole story
WRITE FOR A COPY NOW

WAYNE CRANE DIVISION—AMERICAN STEEL DREDGE COMPANY INC.—FORT WAYNE 1, INDIANA, U. S. A.

Manager of the new department will be Harry J. Kirk, who for a number of years has been manager of the Highway Contractors' Division.

PRA Survey Shows Rapid Increase in Truck Traffic

Truck traffic on the nation's highways is increasing more rapidly than any other type of highway transportation, according to reports received by the Public Roads Administration from state authorities. Increasing use of highways for commercial transportation is reflected in data compiled from truck weight surveys conducted by state highway departments in cooperation with PRA.

Figures for 1947 are incomplete, but reports from approximately half of the States indicate that travel by all types of trucks and truck combinations during the year exceeded the 1946 total in the States reporting by 15.6 per cent, and was about 16 per cent above the 1941 total. Movement of goods by truck in 1947 was estimated at 86 billion ton-miles, or 17 per cent more than in 1946 and 46 per cent above the 1941 total.

More Trucks; Heavier Loads

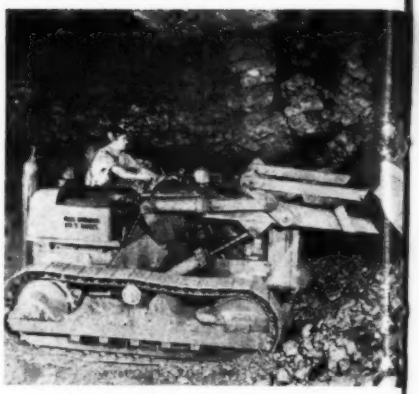
Truck registrations rose from 4,859,244 in 1941, to approximately 6,500,000 in 1947, an increase of nearly 34 per cent. During the same period automobile registrations increased from 29,524,101 in 1941, to an estimated 30,545,000 in 1947. Not only are there more trucks on the highways than ever before, but they are carrying heavier loads. The average load hauled by all types of trucks increased from 3.18 tons in 1941, to 4.36 tons, or 37 per cent, in 1947.

The average gross weight of single-unit trucks was about the same in 1947 as in the preceding year, but the average weight of heavy combination types increased considerably.

An increase in heavy axle loadings also was noted. Reports from states in all sections of the country indicated that the frequency of axle loads of 22,000 pounds or more had doubled in 1947 as compared with 1946. The frequency of axle loads of 20,000 pounds and over had risen about 70 per cent, and the frequency rate for axle loads of 18,000 or more increased approximately 33 per cent.

Compared with the 1936-1940 pre-war period, the 1947 increases were 1,000 per cent for axle loads of 22,000 or more, 450 per cent for axle loadings of 20,000 pounds or more, and 600 per cent for loadings of 18,000 pounds or more.

The actual 1947 frequencies per 1,000 trucks and combinations were: 22 axle-loads of 22,000 pounds or more, 44 axle-loads of 20,000 pounds or more, and 91 axle-loads of 18,000 pounds or more. Axle-loads above 25,000 pounds and ranging up to 41,600 pounds were found in almost every state.



• Eagle-Picher Mining Co., Cardin, Oklahoma, is using this Allis-Chalmers HD-5 diesel tractor equipped with detoxification equipment, in underground mining operations. Oxygen, injected into the engine exhaust manifold by means of small tubes extending from an oxygen bottle mounted in the rear of the tractor, makes possible conversion of carbon monoxide into carbon dioxide.

New AGC Head Sees Record Activity in 1948

The construction industry can carry out a record dollar volume of construction activity under constantly improving conditions during 1948, unless the materials requirements of the European recovery program cause crippling shortages in this country. This optimistic forecast of the 1948 construction volume was made by Dwight W. Winkelman, Syracuse, N. Y. (new president of The Associated General Contractors of America) speaking before the final session of the 29th Annual Meeting of the Associated Equipment Distributors at the Edgewater Beach Hotel in Chicago.

Winkelman also stated: "This construction work can now be undertaken with greater assurance that there will not be costly delays caused by jurisdictional disputes because of the pending establishment of a national joint board for the settlement of jurisdictional disputes by representatives of employers and labor in the construction industry." He forecasted more than fifteen billion dollars in new construction throughout the country, and a total volume approaching twenty-three billions when expenditures for maintenance and repair are added.

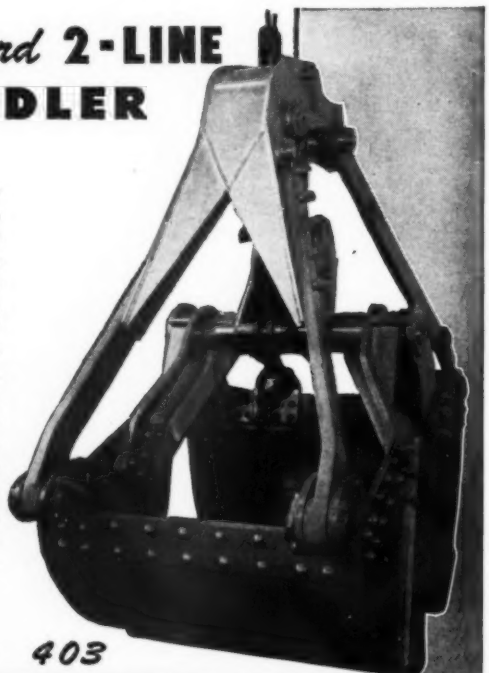
See High Rate of Activity

"There is a general feeling among construction contractors throughout the country that construction needs of the nation are so great that there must be a high rate of activity in the industry for many years," said Mr. Winkelman. He reported improving conditions in the construction industry, stating: "Contractors from many sections of the country have reported the encouraging news that within the past

(Continued on page 56)

ERIE *Standard* 2-LINE REHANDLER

THIS compact Lever Arm Rehandler Bucket of normal proportions has ample closing power to fill to capacity in compact materials, and is so designed that the reeving can be adjusted to obtain maximum speed with capacity grabs in loose materials. We have reduced the "height open dimension" thus requiring minimum headroom, enabling you to pile higher and to discharge into higher hoppers. Lighter weight alloy construction provides more pay load (scoop contents) less bucket dead weight. To see this bucket in all detail write for bulletin 403.



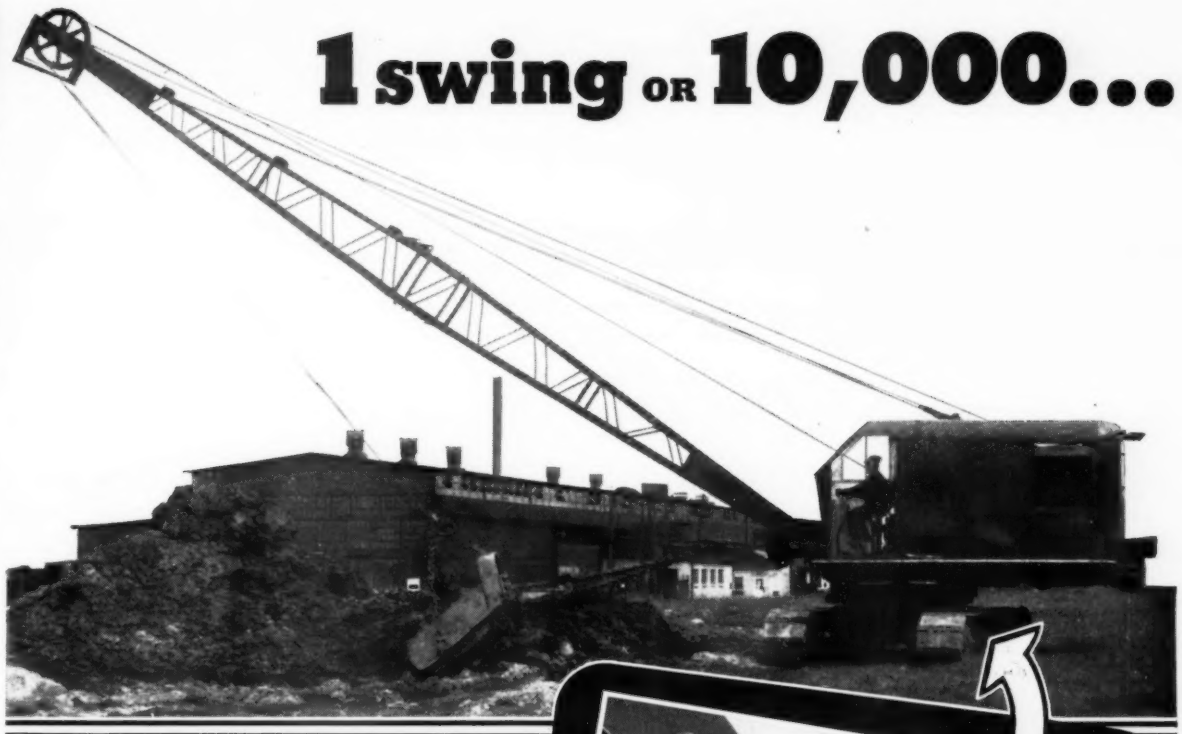
● *Write for Booklet 403*

ERIE BUCKETS • *A Complete Line*

Erie Steel Construction Co., 485 Geist Rd., Erie, Pa.

BUCKETS • AGGREMETERS • PORTABLE CONCRETE PLANTS

1 swing OR 10,000...



Heavy Loads or Light ..the Upper Body of an OSGOOD Stays Stable and in Alignment

No detail is overlooked to make an OSGOOD give you more work for longer periods, with greater efficiency and at lower cost.

For example, every turn of the upper body, regardless of load, is smooth and stabilized. In addition to the conical rollers which travel on the rotating gear, *every large* OSGOOD is equipped with hook rollers which roll *under* the rotating gear. These hook rollers, adjustable to compensate for wear, help distribute stresses evenly, keep the upper body firm and in alignment at all times.

This is only one example of the "perfection in detail" which makes OSGOOD Power Shovels, with famous Air Control, leaders for performance in their field.

POWER SHOVELS • CRANES • DRAGLINES • CLAMSHELLS • BACKHOES • PILE DRIVERS

THE OSGOOD CO. O-G THE GENERAL CO. EXCAVATOR

MARION OHIO

DIESEL, GASOLINE OR ELECTRIC POWERED • ⅜ TO 2½ CU. YD. • CRAWLERS & MOBILCRANES

NOT in the *Contract*

The straight-laced contractor was interviewing an applicant for foreman on the new project.

"Before I decide to hire you," said the contractor, "I would like to ask you a question."

"Shoot," said the would-be foreman.

"Do you ever partake of intoxicating beverages?" inquired the contractor.

"Before I reply, I'd like to ask a single question" said the applicant cautiously, "Is this an inquiry or an invitation?"

A questionnaire was sent home with a new pupil, requesting information regarding the home environment, number of brothers and sisters, father's occupation and so on.

The next day the child returned with a scrap of paper on which was the following:

"We have 18 children. My husband can also do shovel-running work."

"What's worse than being a bachelor?"

"Being a bachelor's son."

There were two shovel runners who consistently had tough luck when gambling, and at the end of the week they had only $2.00 between them. One man suggested their luck might be better if he gambled alone, which he did.

At the race track he won on a 40-1 shot in the first race and by the end of the afternoon he had $30,000. He put all of it on red at a roulette wheel and when the ball settled in black he had lost everything.

"How did you make out?" his friend asked when he returned.

"Lost the two dollars," was the reply.

Cannibal Cook: "Shall I boil the missionary, chief?"

Chief: "Don't be silly, that's not a missionary, that's a friar."

"Well, the new Boss says it's Public Relations."

The contractor was far from home, the job was tough, and everything seemed to be going wrong.

Returning to his hotel that night, he reached for the Bible that had been placed in his room. Pasted on the inside cover was a sheet which said,

"If you are lonely and discouraged, read Psalms 23 and 27."

The contractor turned to the 23rd Psalm and read it through. Turning the page to read the 27th Psalm, he noticed a pencilled note in the margin, written in a scrawled feminine hand. "If you are *still* lonely," it said, "phone 1864."

Little Willie, exhibiting his skill in riding a new bicycle, came down the street in front of his home. "Look, mother," he cried, "no hands!"

Again he came into view, this time coasting with his feet off the pedals. "Look, mother," he shouted, "no feet!"

Half an hour passed and little Willie again put in an appearance. This time somewhat subdued, he gurgled, "Look, mother, no teeth!"

A visitor to an asylum asked an inmate his name.

"George Washington."

"But the last time I was here, you were Abraham Lincoln."

"Sure. But that was by my first wife."

Overheard in a retired contractor's club:

Septuagenarian: "Boys, congratulate me. My wife just presented me with an eight-pound baby boy."

Octogenarian: "That's nothing, my young wife gave birth to twins just yesterday."

Centenarian: "Gentlemen, the other day I was walking in the woods when I saw a rabbit leap up and start to run. In jest, I raised my cane and made believe it was a gun. To my surprise the rabbit fell dead. This episode occurred two more times. Then gentlemen, I looked behind me and saw a boy shooting with a real gun."

Men who know the ropes take Tiger Brand EXCELLAY PREFORMED every time!

● Yes, the Big Demand is for TIGER BRAND . . . because U·S·S American TIGER BRAND is famous for its smooth, trouble-free performance and long, low-cost service life.

Made of uniformly high quality steel wire to close tolerances, TIGER BRAND gives you strength, toughness and flexibility . . . *in the right combination* . . . to stand up tirelessly under the most difficult working conditions. You'll find this more supple rope easier and safer to handle, too. It has less tendency to kink and snarl . . . advantages which save time, trouble, and money any way you figure them!

Your wire rope supplier can give you immediate delivery on any amount of TIGER BRAND you need. Anticipate your requirements. Keep plenty of this dependable wire rope on hand. Don't get caught with your lines down.

EXCELLAY PREFORMED

AMERICAN STEEL & WIRE COMPANY
Cleveland, Chicago and New York
COLUMBIA STEEL COMPANY
San Francisco
Tennessee Coal, Iron & Railroad Company, Birmingham,
Southern Distributors
United States Steel Export Company, New York
UNITED STATES STEEL

THE BIG DEMAND IS FOR TIGER BRAND

Shots

(Continued from page 52)

few weeks there has been a noticeable increase in the productivity of labor. Most contractors can report improved efficiency in their own organizations. Materials and equipment generally are becoming more available. We are coming to the point where we can be much more hopeful of an accelerated rate of improvement in productivity and efficiency in construction operations."

Speaking of construction costs, he said: "Although few of us would like to commit ourselves definitely, there is much hope that the time is fast approaching when construction costs will become stabilized. The break in the upward spiral of commodity prices and others, gives hope that in the near future this can lead to a stabilization of construction costs."

•Windsor Construction Co., Vancouver, B. C., has a quarter-million-dollar excavating job—"biggest in the history of Vancouver"—in the remodeling and enlarging of Hastings Park race track. Among excavating equipment being used on the job is a ½-yd. Lorain TL20 shovel (foreground) and two ¾-yd. Lorain 41 shovels.

"Costs Not Out of Line"

He also pointed out that construction costs were not out of line with the national price trend, and had lagged behind the general upward trend. He said: "Studies have shown that during the postwar years of 1946 and 1947, the index for wholesale prices of all commodities, compiled by the Bureau of Labor Statistics — a good indicator of national price trends — increased 54 per cent.

"During the same period, various construction cost indexes inched upward 37 per cent. The Public Roads Administration index for the composite mile cost showed an increase of only 31.5 per cent."

Winkelman outlined actions taken by the Associated General Contractors of America and other employer groups toward establishment of a national joint board for the settlement of jurisdictional disputes. The A.G.C. ratified the plan on Feb. 12. Seven national organizations representing specialty contractors ratified it on Feb. 10.

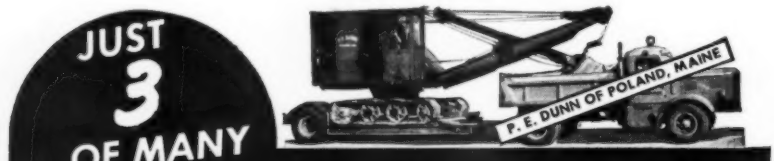
With respect to the Marshall plan, Mr. Winkelman said: "While we can be optimistic about the outlook for construction this year, we must watch developments in the European aid program. Accurate information is not available yet on how much construction materials and equipment will be shipped overseas. These shipments could cause critical shortages in this country.

"A construction industry operating at the peak of its capacity is essential to the growth and progress of our own economy. It is also essential if we are to be able to support the European recovery program. It is entirely appropriate that all organizations in the industry watch developments in the program carefully, and guard against crippling ourselves while we help others."

Increased Mechanization Important

Winkelman concluded his speech to the convention attended by the nation's principal manufacturers and distributors of construction equipment by saying: "My own conviction is that one of the most effective means of reducing construction costs is through increased mechanization. The new machines we are getting now are improved in efficiency. They help us as contractors to cut costs on many of our operations.

"I feel confident that in the future there will be continued improvement in the production and servicing of construction equipment, and that contractors continue to devise many new ways to make their operations more efficient through its use."



who are profitably hauling light and medium shovels, cranes, bulldozers, etc., to and from the jobs with their dump truck serving as the tractor.

The "Tagalong" front loader loads and unloads from the front after trailer is easily disconnected from the dump truck, and it can be a "one man operation" performed in short time.

Write for literature and prices on this versatile trailer.

ROGERS HEAVY DUTY Gooseneck Trailers

ROGERS BROTHERS CORPORATION

DESIGNERS and BUILDERS of HEAVY DUTY TRAILERS SINCE 1915

136 ORCHARD ST. ALBION, PENNA.

• This Bucyrus-Erie 41-B crane with pile driver is putting down 500 12-in. open-end pipe piles for the new 3-story P.S.22 in Bronx, N. Y. The contractor is Felhaber Pile Co., Inc., New York City.

Nebraska's $31 Million Road Program "Too Small"

If all federal aid funds are matched by June 30, 1950, Nebraska will have approximately $31,000,000 available for its road program, according to an announcement by State Engineer Wardner G. Scott.

While predicting that full matching would be possible, he said the Nebraska Highway Department will be unable to satisfy the many needs and demands for road improvement if nothing more than the program is accomplished by that time. Deterioration in existing roads will offset the results of the spending on the highway system, because many of the urgently needed improvements will not be accomplished in the program, he said.

Give 1947 Totals

Scott revealed that during 1947 contracts were awarded for 316.6 miles of grading drainage; 23.4 miles of concrete pavement; 165 miles of bituminous surfacing, new and resurfacing; 7.5 miles of resurfacing and widening concrete paving, and 231 miles of new gravel surfacing. Sixty-one bridges, with spans greater than 20 feet, also were included as well as three viaducts.

Cost of the 1947 contracts, plus obligations for rights-of-way and engineering was $9,683,000, Scott said. Since Nebraska had a "potential" federal and state program of $40,700,000 at the start of 1947, approximately $31,000,000 now is available, he pointed out.

Increased collections from gasoline and other automotive taxes probably will "take up the deficiency shown in matching funds and permit full matching of the currently available federal funds by June 30, 1950," Scott predicted.

He also noted that emergency federal funds for replacement of bridges and roads destroyed by floods were approved last year. "This will be matched with regular federal aid funds which will reduce by about $500,000 the amount of state funds previously anticipated as being required," Scott said.

Accidents Materially Less on Limited Access Roads

Motor vehicle accident records prove conclusively that the limited access highway can materially reduce casualties on the nation's roads, J. T. Callaway, president of the American Road Builders' Association, pointed out at a Washington safety conference.

"Traffic casualties for the first six months of 1947 totaled 14,480 as compared with 15,890 at the same point last year. But since May, each month has shown a rise of 5 to 8 per cent over the corresponding month last year," Mr. Callaway added.

"With 37,000,000 vehicles on the highways—more than ever before in history—we are faced with a constantly increasing problem of accident prevention. The rapid modernization of heavily traveled roads becomes a necessity. Our highways are not equipped to meet the demands of present day traffic.

Cite California Example

"New highways are making a definite contribution to the safety of the motorist," Mr. Callaway said. He cited a report from the California State Highway Department showing that accidents on one of the most heavily traveled routes in the state, Highway 99, between Colton and Ontario, have been cut 50 per cent by the construction of a new limited success highway. The 50 per cent cut holds despite the fact that traffic on the route is heavier this year than last.

Limited access design virtually eliminates the pedestrian accident, and two-car collisions are prevented by divided highway design, Mr. Callaway added.

Accident records on the Boston Post Road, a heavily traveled road on which opposing traffic lanes, except in isolated cases, are not separated, and the parallel Merritt and Wilbur Cross Parkways route show the worth of highway modernization as a safety measure, the ARBA president pointed out.

On the parkways, four-lane divided highways with controlled exits and entrances and no cross traffic, only 32 traffic fatalities occurred from 1940 through 1946.

SAUERMAN FOR FAST MATERIAL HANDLING AT LOWEST COST

Digging — Hauling — Dumping

. . . . operations are merged into one simple, continuous operation when you use SAUERMAN Long Range Machines. Flexible for a wide range of excavation and material handling or disposal, there is a correct type of SAUERMAN Machine to meet your exact problem. Excavates equally well under water. Requires only one man for operation. Electric, gasoline or Diesel power. Easy to install—low power consumption—simple upkeep.

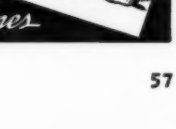
Send us details and we will be glad to advise on your own project.

The SAUERMAN Scraper in the above picture is cutting into a hill and moving material to a fill 400 ft. away. The 4 cu. yd. machine digs and places 2,000 cu. yd. a day. Shifting of the path of the scraper is facilitated by means of an elevated tail bridle set up on the brow of the hill, from which a shifting cable runs to the front drum of the 3-drum scraper hoist.

Catalog on Request

SAUERMAN BROS., INC.

574 S. CLINTON ST., CHICAGO 7, ILL.



Long Range Material Handling Machines

Service Is Secret

(Continued from page 24)

indirectly developed new business for the firm. In 1944, while gathering garbage from cottages on Lake James and Crooked Lake, Jim noted the sad condition of the muddy access roads. He soon developed and was filling orders for a mixture of gravel and clay to make all-season access roads for the cottage owners. Clay, found just below the top soil, is mixed with gravel excavated from lower levels in the pit to make an especially durable road surface.

In great demand at present for road concrete and fill jobs, gravel is usually loaded in the pit by a Ford-tractor-mounted Nelson-Buck loader to six Ford V-8 dump trucks with 5-yd. Gar Wood and Baybrook bodies. Much of the property around Steuben county's 100 lakes is swampy and requires filling to make it usable. The firm's three bulldozers—an Allis-Chalmers RD7, a Caterpillar RD-4, and an Allis-Chalmers M—are used at the gravel pit, for outside leveling and grading, or other work as the occasion demands.

The Wyatts' ability to coordinate their many activities was demonstrated recently in a job for the Cities Service Oil Co. The project is a 3-acre retail and wholesale distributing plant designed to serve the Company's Steuben county dealers. To level the property it was necessary to remove eight to ten feet of top soil from most of the area. The Wyatts loaded out this material with their ⅜-yd. Michigan TL-6 truck-mounted dragline to trucks which hauled it directly to garden and lawn fill jobs previously secured with the disposal problem in mind.

Growing Industrial Business

The truck-mounted rig was then used to handle and erect five 20,000-gal. gasoline tanks with the help of the Allis-Chalmers-D-7-mounted Gar Wood dozer. This project, and others similar to it—including a recent excavating, hauling, and trenching job for the new Coldwater plant of Federal Mogul Company—are typical of the Wyatts' growing industrial work. Numerous small establishments—auto courts, garages, filling stations, cafes, wayside hotels, and small manufacturing plants—require excavating, filling and grading services.

• The Wyatt Brothers of Angola, Indiana: Wilbur (left) and Jim.

In addition, a trend toward decentralization of larger industries here brought several branch plants into the area, providing additional work for the Wyatts. Practically all this work is done on a time and materials basis since this has proved fairest to both the Wyatts and their customers.

Stone "Burial Service"

A service recently offered to farmers has been especially popular. Many Steuben county farmers, after circling stone piles in their fields for years, are realizing the value of the firm's "burial service." At a nominal cost per pile, the Wyatts excavate holes, pull in stones and cover them over using the Michigan truck dragline.

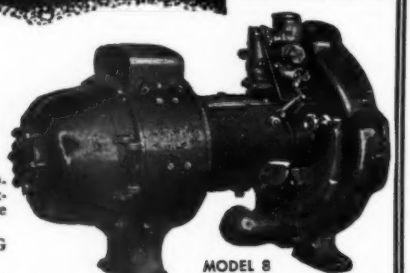
One grateful farmer told Jim recently "For a matter of a little over $10 an acre, we have increased the value of our land from a productive standpoint, in addition to doing away forever with

Front - End
LOADERS
For Industrial Tractors
Extensible Booms,
⅝-cu. yd., Bucket 8-foot lift,
Backfiller Blades
White Mfg. Co.
ELKHART INDIANA

MOON Generators
for LIGHT and POWER
TURBO and BELT DRIVEN
The Ideal Small Power Plant

IMPORTANT MOON FEATURES

- GOVERNOR AND COMPOUND WINDING on steam-driven models prevent excess voltage output which might injure electrical equipment.
- ONLY 2 EASY-TO-REACH OILING POINTS.
- AUTOMATIC CUT-OFF on larger capacity steam-driven models prevents overload damage to generator.



MODEL 8 (STEAM)

For Lights . . . Ventilating Fans . . Other Electrical Equipment . .

SEND TODAY FOR ILLUSTRATED CIRCULARS. MODELS FROM 1 TO 7½ KW CAPACITY.

Moon MANUFACTURING CO.
ESTABLISHED 1893
122 N. JEFFERSON ST. . . . CHICAGO 6 . . . ILLINOIS

the knee-skinning, time-killing job of plowing around these obstacles. We figure conservatively that every rock pile on the place cost us at least two shocks of corn per year in the form of lost production, increased cost of labor, plowing, cutting and cultivating around them, breakage of high priced farming implements and destruction of grain."

The success of local contractors like the Wyatts is due in large measure to the enterprise of the men themselves. But it is also a tribute to the adaptability of today's excavating and hauling equipment—which facilitates economical and rapid performance of a wide variety of excavating work.

Fifteen Million Yards

(Continued from page 22)

from its 200-ft. boom. The rig removes a top layer of clay to expose the top of the rock strata from which two Bucyrus-Erie 42-T percussion-type blast hole drills put down 9¼-in. holes 80 to 90 ft. deep in a 20 x 20 ft. pattern.

The dragline digs and casts to an adjacent worked-out pit over a million yards of overburden every three months. At the time the job was visited, coal from the Mammoth vein (ranging up to 40-ft. thick in this location) was loaded out by a 2-yd. P & H shovel. This rig was later replaced by a 2-yd. Bucyrus-Erie 44-B shovel.

• Framed by dump piles on the opposite bank, a Bucyrus-Erie 1150-B dragline takes a 22-yd. gulp of rock overburden at Treverton.

A second Dick-owned 1150-B, also with 200-ft. boom and 22-yd. bucket, is stripping an average 125 feet of overburden in an 80-ft. wide cut for the Philadelphia and Reading Coal and Iron Company at Trevorton, Pa. This is a rock job requiring top-to-bottom drilling by eight Bucyrus-Erie 42-T drills—four electric and four diesel powered. The 9-in. x 130-ft. holes are loaded with an average of 800 pounds of Hercamite B with 40% gel primer.

The raw coal ratio at Trevorton is 4 to 1. Coal exposed by the

HAYWARD BUCKETS

WON'T QUIT OR CAUSE TIME OUT

A Hayward Bucket keeps the job going ahead on scheduled time. It won't quit or cause time out.

THE HAYWARD CO.
52-54 Church Street
New York, N. Y.

RENEWED CRUSHING POWER!

MANGANAL

TRADE MARK REGISTERED U. S. PATENT OFFICE

11 TO 13¼% MANGANESE-NICKEL STEEL

ROUND APPLICATOR BARS REBUILD CRUSHER

OTHER MANGANAL PRODUCTS
- MANGANAL WEDGE BARS
- MANGANAL APPLICATOR BARS—FLAT-ROUND-SPECIAL SHAPES
- MANGANAL HOT ROLLED PLATES
- MANGANAL BARE AND SPECIAL TITE-KOTE WELDING ELECTRODES

The Gyratory Crusher shown is being built back to size using Manganal Round Applicator Bars. There is a Manganal product for conservation welding of all Manganese, Carbon and Alloy Steel Parts of your equipment. Don't scrap worn equipment! Don't struggle to make worn equipment do the job! Rebuild with MANGANAL!

Name of Nearest Distributor Upon Request

GET THE FACTS FREE!

Send for booklet "Welding of 11% to 14% Manganese Steel."

STULZ-SICKLES CO.
Sole Producers
91 N. J. Railroad Avenue, NEWARK 5, N. J.

1150-B is loaded out by a Bucyrus-Erie 54-B dragline with 85-ft. boom and 2-yd. bucket, and three shovels: a Bucyrus-Erie 16-B with ½-yd. dipper, a 5-yd. Bucyrus-Erie 120-B and a 1201 Lima with 3-yd. dipper. Hauling of coal to the breaker is subcontracted to Thomas Bros., Trevorton, who use 10 and 15-yd. Euclids.

Stripping 615 Yds. an Hour

Also at Trevorton is a Bucyrus-Erie 9-W dragline with 200-ft. boom and 8-yd. bucket. This machine works at the northern end of the job where overburden is 45 feet deep. The 9-W and the 1150-B total more than 615 yards an hour in hard sandstone.

Superintending the Trevorton job, which has nine more years to go, is Ed Lauer. Assistant superintendent is George Jacoby and pit foremen are Charles Hinderliter, Frank Wagner and Fred Lubold. Ed Hauser is drill foreman.

• While an International-powered Bucyrus-Erie TD-14 Bullgrader clears a new truck spot, pit men prepare to handle cable for shovel move-up at Monitor.

Charles R. Dick, who founded the A. E. Dick organization, started in the stripping business in 1880 hauling crop material in horse-drawn 2-wheel carts loaded by hand. Gradually he purchased boom-type shovels and used them to load to 2-yd. railroad cars and rail-type hauling. C. R. Dick died in 1898 and was succeeded by his son A. E. Dick, Sr., as head of the firm. W. H. Dick (brother of A. E. Dick, Sr.) joined the firm in 1911 in which year it was organized into Dick Construction Company with James Sechler as the third member of the firm. W. H. Dick died in 1928.

Present makeup of the organizations includes A. E. Dick, Sr. as president of A. E. Dick Contracting Company and of Dick Construction Company; A. E. Dick, Jr., as vice president and treasurer of the contracting company, and treasurer of the construction company; D. B. Dick, as general manager of the construction firm; and Luther Keuch as secretary of the construction firm.

A. E. Dick's Leadership

Active head of Dick organizations at 88 years of age, Arthur Dick, Sr., has guided his fellow workers through years of varied work, including construction of tunnels, dams, canals, bridges and highways. In more recent years, he brought concentrated attention to large coal stripping projects which recover annually nearly two

GET THOSE HOLES DOWN FASTER . . .

. . . with Bucyrus-Erie drill bits. Made from special high-carbon steel billets by expert craftsmen, they hold their shape longer even in the toughest going. Forged, machined, heat treated, Bucyrus-Erie drill bits have proved themselves economical, fast-working tools in all kinds of ground formations. Extra-long body section makes possible more sharpenings — longer life. They're fast-working because their deep, wide water-courses mix sludge efficiently and keep pulverized material in suspension.

• • •

Investigate Bucyrus-Erie bits . . . see how they can help solve your drilling problems.

6A47

BUCYRUS-ERIE COMPANY
SOUTH MILWAUKEE, WISCONSIN

STURDILITE *The HEAVY-DUTY FLOOD LAMP*

Lights Your Work Better • At LESS COST...

SPECIALLY ENGINEERED and designed for efficient, long-lasting service on Shovels, Excavators, Draglines, Road-building Equipment, Locomotive Cranes, Tractors. Sealed-beam unit provides extra high light intensity and spread. Entire assembly mounted on shock-proof rubber insulated base to absorb vibration. STURDILITE is specified as a standard accessory on leading makes of equipment. Available in 4-6; 12-16; and 110-120 voltages.

WRITE for detailed specifications, illustrated Bulletin, and prices.

PHOENIX PRODUCTS CO. METAL SPINNING DIVISION
4723 N. 27th Street, Milwaukee 9, Wisconsin

million tons of coal which would not be available by any other means than by stripping.

Dick companies' total output now exceeds one million cu. yds. of overburden each month. Commenting on the experiences of other days, Mr. Dick said recently "It was touch and go many times in the old days. The future, however, is full of promise, especially in the coal-stripping field. Some of the jobs being done, and others in the blueprint stage, are on a scale never before attempted." Perhaps he had in mind his own Virginia and West Virginia operations which will run well over 200 million yards of excavation.

Dick Construction Company operates in the middle western anthracite field at Treverton, Locust Gap, and Dickerson, Pa. A. E. Dick Contracting Company operates in the middle eastern anthracite field at Jeddo, Audenried, Wilkes-Barre and Truesdale, Pennsylvania. From 1922, when some bituminous coal was stripped near Brownsville, Pa., until last year, all of the work of both companies has been in the hard coal fields. Last year, large-scale stripping work was started in the southern bituminous fields.

The two companies, with a total of more than 500 employees, together are one of the largest stripping organizations in the world. Although no figures are available for total yardage stripped by the Dick organizations, it runs into the billions.

New Equipment

(Continued from page 34)

use with, and matched in capacity to the power of, the "D2" tractor.

The new "No. 2A" and "No. 2S" bulldozers combine the accepted blade features of the "Caterpillar" bulldozer "family," and the advantages of a closed hydraulic system.

This system incorporates such features as front-mounted, positive action, balanced vane type pump, integral with tank and operating valves; manually operated control valve; carburized pins for connecting pistons, cranks, and push arms; high pressure reinforced hydraulic hose.

Diesel Fuel Pump

Manufacturer: Industrial Power Division, International Harvester Company, 180 North Michigan Avenue, Chicago 1, Illinois.

Claims: A field replacement package unit, containing a new single-plunger International diesel fuel injection pump for replacing the older four-plunger pumps found on series "35" and series "40" diesel engines, has just been announced. New high-pressure fuel lines and all necessary accessories are included. No modifications are required for installation, and cost of the unit is said to be less than the expense of a maior overhaul on the old pump.

Features of this single-plunger pump include faster governor action and more accurate fuel metering and injection. These features are said to result in smoother engine operation and increased engine torque.

Cab-Over-Engine Trucks

Manufacturer: Truck and Coach Division, General Motors Corporation, Pontiac, Michigan.

Claims: Two new cab-over-engine series of trucks with a total of eleven basic models have been added to the current GMC medium duty line and are now in production.

Characterized as the "FF-350" and "FF-450" series, the new units offer cab-over-engine users all the desired advantages of this design, plus many new appearance, comfort, convenience, and safety features.

The "FF-350" series is composed of five models with wheelbases ranging from 122 inches to 197 inches, a gross vehicle weight rating of 16,000 pounds, and gross combination weight rating of 26,000 pounds. The "FF-450" series is offered in the same number of models and wheelbases. Gross vehicle weights for these units, however, are 19,500 pounds with standard rear axle, and 21,500 pounds with optional heavy duty rear axle, while gross combination weights are 34,000 and 37,000 pounds respectively.

DREDGES

HYDRAULIC
DIPPER
CLAMSHELL

Bolted sectional steel hulls for landlocked, inland waters

If you need a dredge, write us!

AMERICAN STEEL DREDGE CO. INC.
FORT WAYNE 1 · INDIANA · U.S.A.

DESIGNERS AND BUILDERS OF DREDGING EQUIPMENT SINCE 1905

save time between jobs with JAHN TILT TRAILERS

Tilt—load—and you're off in a matter of minutes with a Jahn Tilt Trailer. No jacks or loading ramps required. One-man operation. Positive, automatic safety lock holds platform in position when loaded or empty. Rubber mounted drawbar absorbs road shocks and protects both truck and trailer. Ideal for transporting tractors—rollers—compressors—shovel-loaders—mixers, etc. Jahn Tilt Trailers are available in 8 ton capacity tandem axle and 5 ton capacity single axle models. Write for specifications and illustrated bulletin or see your nearest Jahn distributor.

C. R. JAHN COMPANY
Dept. 49—1106 W. 35th Street, Chicago 9, Illinois
Heavy duty Trailers from 5 to 100 tons

Notes from the manufacturers

Le Roi Company, Milwaukee 14, Wisconsin, has appointed John E. Heuser to the position of Assistant Sales Manager. Mr. Heuser will take over many of the duties of Cecil W. Brown, who recently resigned as General Sales Manager.

Colorado Fuel and Iron Corporation, New York 18, New York, has announced the appointment of R. R. Tatnall as Field Service Metallurgist in Charge of Customer Relations for its Wickwire Spencer Steel Division. Mr. Tatnall will make his headquarters at the company's plant in Buffalo.

SURPLUS STOCK SALE!

60 Brand New Gear and Wheel Pullers

Popular Size Model No. 1004

The harder the pull, the tighter the arms hug the work. Made of heavy one-piece forged steel yoke. Heat treated forged steel arms and straps.

Will take gears, wheels, etc., up to 18" in diameter.

Diameter	18"
Reach	15½"
Diameter, Screw	1¼"
Length, Screw	16"
Hole adjustment	3 hole
Weight	40 lbs.

Bargain Price $22 ea. F.O.B South Milwaukee

Bucyrus-Erie Co.
South Milwaukee, Wis.

All-State Welding Alloys Company, Incorporated, White Plains, New York, announces the appointments of the following distributors for the All-State line of low-temperature welding and brazing alloys and fluxes:

Pacific Welding Supply, 520 West Pacific Coast Highway, Long Beach, California; Hendrie & Bolthoff Company, 1635 17th Street, Denver, Colorado; Southern Oxygen Company, Inc., P.O. Box 5087, Washington, D. C.; Meco Welding Supply Company, 4835 S. Western Blvd., Chicago, Illinois; Owen Welding Supply Company, 9541 S. Damen Avenue, Chicago, Illinois; Mittler Supply Company, 105 W. Garst Street, South Bend, Indiana; Robinson Welding Supply Company, 8706 Lyndon Avenue. Detroit, Michigan; Layman Welding Supply Company, 1000 Ottawa Avenue, N.W., Grand Rapids, Michigan; Jackson Welding Supply Company, Inc., 136 Broad Street, Rochester, New York; Arcway Equipment Company, 313 Sixth Avenue, Pittsburgh, Pennsylvania; Commercial Gas Corporation, 111 Scott Street, Wilkes-Barre, Pennsylvania; Welders Supply, Incorporated, P.O. Box 5528, Dallas, Texas.

Euclid Road Machinery Company, Cleveland, Ohio, has appointed T. J. Hawthorne District Manager for the states of Colorado, New Mexico, and Arizona as well as sections of Texas and Wyoming. Mr. Hawthorne will make his headquarters in Denver.

Robins Conveyors Division, Hewitt-Robins, Incorporated, Passaic, New Jersey, has leased a warehouse at 1010 Pennsylvania Avenue, Charleston, West Virginia, to step-up deliveries in the industrial South, particularly in the mining areas of Virginia, West Virginia, Kentucky, North and South Carolina.

The new warehouse will stock complete mine conveyors, screen parts, conveyor belting, idlers, and other items in the Robins Conveyors Division line, ready for shipment to all parts of the South.

The Warner & Swasey Company, Cleveland 3, Ohio, has announced the appointment of J. C. Georg, Syracuse, as distributor for Gradall, multi-purpose earthmover. Mr. Georg will handle sales of the new machine in Eastern New York State, with the exception of metropolitan N. Y. C.

Tyson Bearing Corporation, Massilon, Ohio, has announced a number of new appointments and assignments in the Tyson Sales Organization as a part of a program to expand and improve the company's sales and service facilities.

George C. McMullen has been made Vice President in Charge of Sales, while W. H. Oexle has joined Tyson in the capacity of General Sales Manager. Ivan C. Mann, formerly Manager of Replacement Sales, has been named Assistant Sales Manager.

Nordberg Manufacturing Company, Milwaukee 7, Wisconsin, has transferred Harold N. Propp, Sales Engineer, to the San Francisco District office. He will assist T. D. Davis, Manager of Nordberg's Crusher and Process Machinery Division in that District.

Wilson Welder and Metals Company, Inc., has appointed the Industrial Air Products Company as its exclusive electrode distributor in the state of Oregon.

The main office of the new distributor is located at 3200 N. W. Yeon Avenue, Portland 10, Oregon.

Manhatten Rubber Division, Raybestos-Manhatten, Incorporated, Passaic, New Jersey, announces the appointment of R. F. Teeling as Manager of its North Jersey Branch.

Caterpillar Tractor Company, Peoria 8, Illinois, has appointed Mark A. Clements as general Service Manager to succeed D. O. Nash who has resigned the post. Mr. Nash leaves "Caterpillar" to associate himself with the Wortham Machinery Company, "Caterpillar" distributor with headquarters in Cheyenne, Wyoming. He will serve as vice president and general manager for Wortham.

OWEN BUCKETS *are popular* **for LOW HEADROOM**

and thus are more adaptable to various operating conditions.

Owen Bucket heads are one-piece alloy steel castings, light enough to prevent top heaviness and designed for rigid arm connections.

Special head design eliminates wear on upper arm ends. Rack and wobble is prevented.

The Owen Bucket Company
6095 Breakwater Avenue, Cleveland, Ohio
Branches: New York • Philadelphia • Chicago • Berkeley, Cal.

TO ADVERTISE: All advertising in this section is payable in advance. Rate: 60c per line, or $7.20 per inch of 12 lines. Minimum charge $2.40. No discounts; no commissions. Please count your copy carefully to avoid delay. Each line contains 41 characters (34 characters if all capital letters are used). Count spaces as punctuation as one character each. Allow 10 characters for box number, if blind advertisement is desired. Be sure to enclose the correct amount of money with your order. Closing date—15 of preceding month. Example: January closes December 15th.

TO INQUIRE: Be sure to address your inquiry to the advertiser by using the correct box number. Mail your letter in care of Excavating Engineer, South Milwaukee, Wisconsin. Write each advertiser a separate letter. Do not write us for name and address of advertiser. This information will not be given out. We have no information about the equipment advertised other than that shown in the advertisements themselves.

FOR SALE
2½-yd. P & H Electric
Shovel, Model 1225

This shovel has a 3-yard bucket and is in very good mechanical and electrical condition.

Shovel can be demonstrated under power.

Electrical equipment: 3 phase, 60 cycle, 2300 volts.

Good selection of new parts to be sold with shovel.

JOHNS MANVILLE PROD. CORP.
Lompoc, California

1—31-B Marion steam crane No. 4660.
1—105 Northwest crane No. 1588, Twin City motor. Above machines in good condition. New tubes in boiler on Marion.
W. H. Knapp **Monroe, Michigan**

Insley shovel Type C, built August 1, 1929, Serial No. C—823, Motor No. 153707—A—I U —404. B-M capacity ¾-yard, length of cats 11' 4", width of cats 13". Swing ¾ turn, dipper stick boom. One box of spare parts, including 8 bushings 1 sheave. Date of purchase December, 1944, fair condition. Location: 289 Medford Street, Charlestown, Mass. Box 3270

Bucyrus-Erie 44-B (23957) new 1942 Buda diesel shovel, dragline. Good operating condition. Location, Montana. Priced right. Box 3264.

Bucyrus-Erie No. 8 bit dresser. Complete and in perfect operating condition. Located in Washington State. Box 3271

6-yd. and 2-yd. diesel walker drags.
Drag scraper equipment, 1 to 4-yds.
Cranes-drags-diesel and gas, 1½ and 1¾-yd.
Cranes-drags ⅝ to 1¼-yd., gas-diesel.
Loco. cranes 30 ton diesel: 25 ton gas.
Shovels 1¾ diesel: 1½ and 1-yd. gas.
Compressors—NEW, 650' 100 lbs. cpld. to syn. motors: 315' diesel port., rebuilt.
James Wood, 53 West Jackson, Chicago 4, Ill.

1¼-yd. Drott hi-loader, hydraulic on 1947 Cletrac model DG. Perfect order $6750.

Link Belt Crane ¾-yd. model B5 with Cat D 7700 diesel engine. Has ⅝ shovel front and dragline, leads and clamshell. $8500.

Compressor 210 Davey 2 stage on wheels. Has Buda 6 cyl. engine, starter, 3 outlets. $1533.

Semi-trailer low 16'x9'.6" has 8 wheels 10:00 x15" tires, air brakes. Heavy duty. $1550.

22' trailer 8 wheels rear 9:00 x 20 with front dolly 12:00 x 20 tires. Air brakes. $1550.

Drill steel. I.R. 4' long. Timken 8' at .7c lb. I.R. rock bits 2" and 2⅛" at 12c each.

Cable, improved plow steel, ¾ and ⅞ hemp or wire center, reg. or lang lay, 18c to 22c.

G. W. Kaufman.
Markley Rd., Cincinnati—30—Ohio

Bucyrus-Erie Model H-74 2-wheel, 7-yard scraper in good condition. Tires, rubber hoses in excellent shape. Hydraulic equipment not included. Located Virginia. Box 3272

International Harvester TD-14 with bulldozer for sale or rent with operator. Edw. A. Cechvalo, R. 3, West Bend, Wis.

Need a pile driver? Have used Marion Model 37 steam crane, 60 foot boom, suitable for converting to pile driver or use as a crane. No leaders. Box 3275

Dragline conversion equipment for Bucyrus-Erie 120-B shovel, 90' boom, 4 yd. bucket. Has never been used. Central location. New equipment. Box 3254

Complete chain crowd shovel front for Bucyrus-Erie 37-B (No. 12863). In good condition, used only two years. $2500. Box 3262

1—Rex 34-E dual drum paver. Serial No. GG153.
1—Blaw-Knox concrete finishing machine. Serial No. XB-2087.
1—Jaeger concrete finishing machine. Serial No. 42-X-087.
1—Buckeye power driven fine grader. Serial No. 319.
1—International TD-14 tractor. Serial No. TDF-675.
1—Trail grader—Cleveland. Serial No. 4176.
All the above in excellent condition.

IVY H. SMITH COMPANY
Jacksonville, Fla.
P. O. Box 5098 **Ph. 9-4458**

SURPLUS STOCK SALE
Dippers for Bucyrus-Erie Shovels
1—½ cu. yd. drag shovel dipper—17-B.
1—2 cu. yd. rock dipper 75-B.
New Dragline Buckets
2¼ yard Red Arch Type AX medium duty bucket.
5 yard Red Arch Type AY heavy duty bucket.
6 yard Red Arch Type AY heavy duty bucket.
F.O.B. Works
Write for any further information desired

BUCYRUS-ERIE COMPANY
Parts Department
South Milwaukee **Wisconsin**

MECHANICS • HOME STUDY

Step up your own skill with facts & figures of your trade. Audels Mechanics Guides contain Practical Inside Trade Information in handy form. Fully illustrated. Easy to Understand. Highly Endorsed. Check book you want for 7 days' Free Examination. Send no Money. Nothing to pay postman. ☐Carpentry $6 • ☐Auto $4 • ☐ Oil Burners $1 ☐Sheet Metal $1 • ☐Welding $1 • ☐ Refrigeration $4 ☐Plumbing $6 • ☐Masonry $6 • ☐Painting $2 • ☐Radio $4 ☐Electricity $4 • ☐Mathematics $2 • ☐Steam Engineers $4 ☐Machinist $4 • ☐Blueprint $2 • ☐Diesel $2 • ☐Drawing $2. If satisfied you pay only $1 a month until price is paid.
AUDEL, Publishers, 49 W. 23 St., New York 10, N. Y.

Surplus Swivel Hook Double Sheave Block
1 40 ton "American" 24" swivel hook double sheave block, diamond pattern with cast steel sheaves grooved for ⅞" rope. Sheaves to be bushed with plain bronze bushings, with center bored sheave pin and ¼" Alemite hydro grease fitting No. 1980 equipped with 300 lb. cheek weights and 6½" swivel hook. Total weight of block 1190 lbs. Dwg. BEFP 1-M-6560.

BUCYRUS-ERIE COMPANY
South Milwaukee, Wisconsin

One Bucyrus-Erie 15-B shovel attachment. Nearly new. Located Central Kansas. Box 3266.

Two lengths of 2/0 power cable, each one thousand feet long, type SHD with molded ends. Box 3265.

USED 18" OR 20" ELECTRIC HYDRAULIC DREDGE. MID-WESTERN LOCATION.
BOX 3251

ALL-STEEL DERRICKS

19—30 ton capacity BRAND NEW Wiley all steel stiffleg derricks, 32' masts, 60' booms, complete; can furnish with gasoline, electric or steam hoists.

ALSO

Air compressors, bins, boilers, cable, conveyors, cranes, crushers, engines, hammers, conc. mixers, light plants, pneumatic tools, pavers, pumps, saw rigs, welders.

EQUIPMENT CORPORATION of AMERICA

CHICAGO 12	PHILADELPHIA 2
1170 S. Washtenaw Av.	1505A Race St. Schaff Bldg.
PITTSBURGH 30	NEW YORK 7
P.O. Box 9330	30D Church Street

HELP WANTED

EXPERIENCED CONSTRUCTION MACHINERY SALESMAN TO WORK WYOMING TERRITORY. PLEASE STATE AGE, EXPERIENCE AND REFERENCES. Box 3273

Large Middle Western manufacturer of allied equipment for crawler tractors has an immediate opening for field service engineer for work in Middle Western area. Job provides stable and permanent employment with opportunity for advancement for man of ability. Work consists of field service of allied equipment and application delivery and demonstration of crawler tractors with bulldozers, hauling scrapers, loaders, etc. on contractors and county work, also service instruction to distributors service organizations. Requires extensive traveling. Applicant should have good mechanical background and should be a good operator. Age 26 to 35. Please state all qualifications and experience in reply. Box 3269

EXPERIENCED MECHANIC FOR CONSTRUCTION MACHINERY. PLEASE STATE AGE, EXPERIENCE AND REFERENCES. Box 3274

(Classified continued on page 64)

For Sale

(Continued from page 63)

POSITIONS WANTED

Power shovel and crane operator—Bucyrus-Erie, Bay City, Lorains-Limas. Also trench machines, backhoes, bulldozers, and compressors. A-1 mechanic, age 48, with over 25-years experience. Go anywhere. Now in Baltimore, Md. Box 3242

Shovel operator experienced in operating Bucyrus-Erie electric machines desires permanent employment. Age 41 years, can furnish excellent references. Box 3261

New trade literature

Title: "Soil Mechanics in Engineering"

Subject: Authored by Karl Terzaghi, Professor of the Practice of Civil Engineering, Harvard University, and Ralph B. Peck, Research Professor of Soil Mechanics, University of Illinois, this new book contains much information about the successful application of soil mechanics to the design and construction of foundations, retaining walls, and earth structures. Definite instructions are given by which an engineer can judge the extent to which soil mechanics can profitably be used on a given job. Applications are also included.

The work is divided into three sections. Part A deals with the physical properties of soils and Part B with the basic theories of earth pressure, stability, and settlement which are needed in dealing with practical problems. Part C is devoted to the actual practice of earthwork design and construction. Here the applications of soil mechanics to practical problems are comprehensively presented.

Where to Get: John Wiley & Sons, Incorporated, 440 Fourth Avenue, New York 16, New York (Price $5.50).

Title: Shovel Bulletin

Subject: A new bulletin on the Buckeye Model 70 Clipper Power Shovel has just been released. All the improvements that have been effected since V-J day in this Mevac-controlled shovel are shown in the bulletin.

Illustrated with protographs, the 32-page book includes specifications.

Where to Get: Gar Wood Industries, Incorporated, Findlay Division, Findlay, Ohio. Ask for Bulletin No. 846-R (Free).

Title: Diesel Operation Booklet

Subject: "The Lanova Combustion System for Diesels," a 58-page handbook-size booklet has just been published. The booklet gives an up-to-date description of the Lanova Combustion System, what it is, and how it functions. Throughout the text, stress is placed on the importance of proper combustion in economical diesel operation.

Included is such elementary material as is considered necessary to give the reader a clear understanding of the subject. Points that are discussed are: comparisons between types of fuels, differences between internal and external combustion engines, and gasoline and diesel engines, as well as a full description of how a diesel operates.

A useful appendix of engineering tables and data is also included.

Where to Get: Lanova Corporation, 38-15 30th Street, Long Island City 1, New York (Free).

Title: "One-Man Loader" Folder

Subject: This attractively illustrated 4-page folder describes the one-man truck loader manufactured by the Shoveller Corporation. It shows how the loader can fill a 3-yard truck body in three minutes, with power furnished entirely by the truck's rear wheels on the Loader's pads.

Where to Get: Shoveller Corporation, 36 Warren Avenue, Portland 5, Maine (Free).

Title: "Tournahauler" Folder

Subject: The "Tournahauler," a new heavy-duty, self-powered hauling unit is described in this illustrated 6-page folder. The folder which features photographs of the unit in action, presents "Tournahauler" features that are said to bring greater hauling versatility in the field.

Where to Get: Tournahauler Division, R. G. LeTourneau, Inc., Longview, Texas. Ask for Form RT-149 (Free).

Title: AMSCO Welding Bulletin

Subject: Telling how to keep equipment of all types operating and producing through conservation welding, this 28-page bulletin is illustrated with photographs and drawings. It explains the AMSCO method of keeping hard-to-get parts out of the scrap pile by repairing, rebuilding, reclaiming, and hardsurfacing with AMSCO welding rods and electrodes.

Where to Get: American Manganese Steel Division, American Brake Shoe Company, Chicago Heights, Illinois. Ask for Bulletin 1047-W (Free).

Title: "Power Parade" Magazine

Subject: "Power Parade" is a 12-page pictorial magazine illustrating applications of General Motors Series 71 diesel engines in various enterprises. Descriptive material follows a narrative form, relating actual performance and operating experiences as reported by product users.

Where to Get: General Motors Corporation, Detroit Diesel Engine Division, 13400 W. Outer Drive, Detroit 28, Michigan. Ask for Power Parade (Free).

Title: Steel Piling Folder

Subject: This illustrated 4-page folder describes the L. B. Foster Company's new light-weight interlocking steel sheet piling. It gives advantages, physical characteristics, suggested applications, etc., of the box-type corrugated piling.

Where to Get: L. B. Foster Company, Box 1647, Pittsburgh 30, Pennsylvania. Ask for Folder No. F-110 (Free).

Title: Page Welding Wire Catalog

Subject: The new Page Gas Welding Rods catalog has just been released.

This 3-color, 24-page brochure is devoted exclusively to Gas Welding Wire and its use. Easy-to-find index and clean-cut layout make the book easy to use. It covers the complete "Page" line; gives the application, procedure, proper torch adjustment, physical properties, etc. of each gas welding rod.

The catalog also includes information about: oxy-acetylene flames, torch tips, pipe welding, weights of weld metal deposit, weights of gas welding rods, estimated costs for manual oxy-acetylene welding.

Where to Get: Page Steel & Wire Division, American Chain & Cable Company, Incorporated, Monessen, Pennsylvania (Free).

Title: Mack Truck Booklet

Subject: This new 16-page booklet, "Mack in the Mines and in the Quarries," is filled with action pictures of Mack trucks at work in mines and quarries in every part of the country. Covering trucks and tractors, four and six-wheel vehicles, powered by gasoline, diesel, and butane fueled engines, the booklet describes and illustrates every type of Mack truck and dump body design used in the hauling of ore, coal, rock, and earth.

Where to Get: Mack Trucks, Incorporated, 350 Fifth Avenue, New York 1, New York (Free).

Title: Gorman-Rupp Pump Bulletin

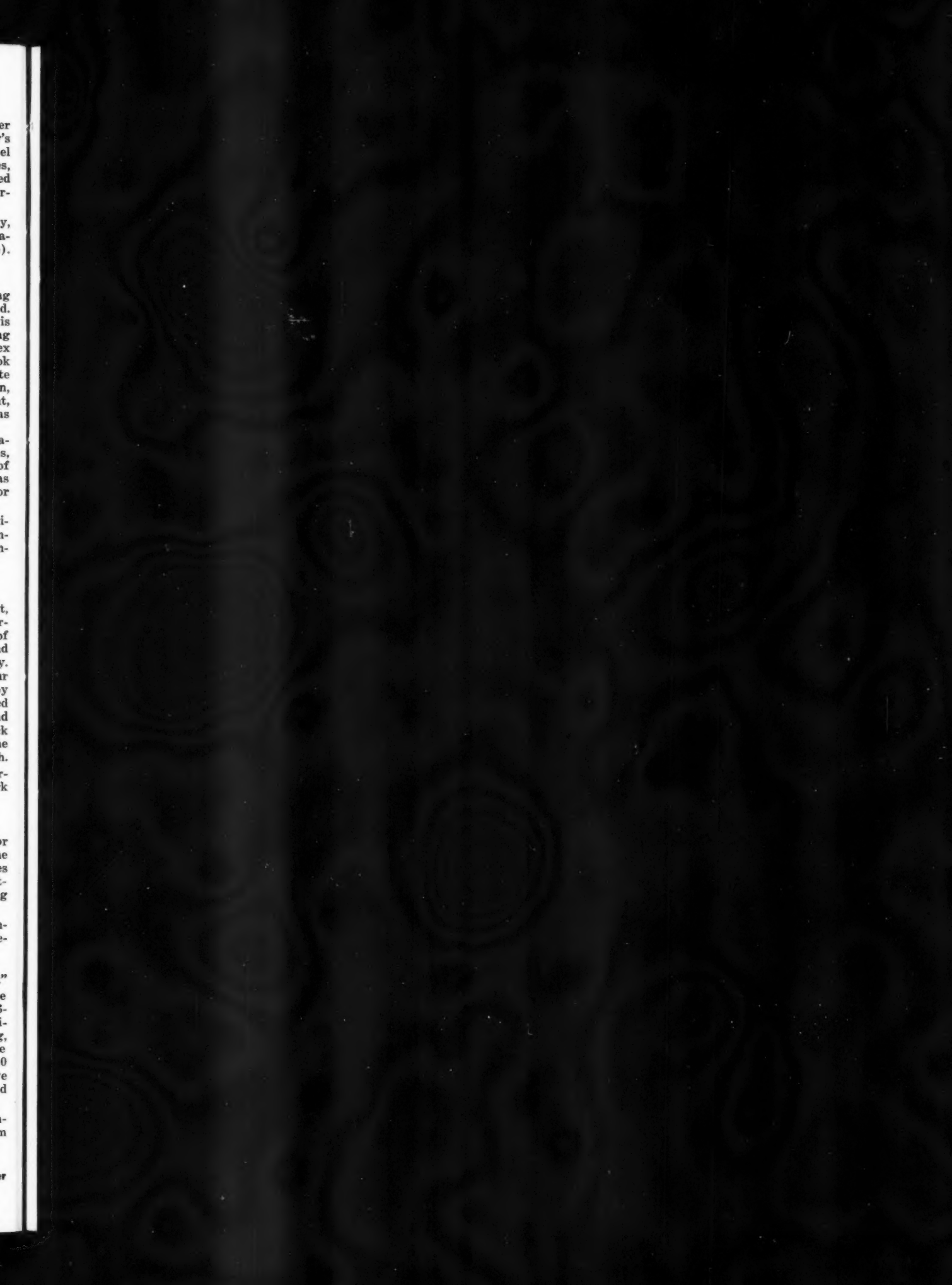
Subject: This new 4-page two-color bulletin pictures and describes the characteristics, performance, and uses of the new Gorman-Rupp Lightweight Centrifugal Self-Priming Pumps.

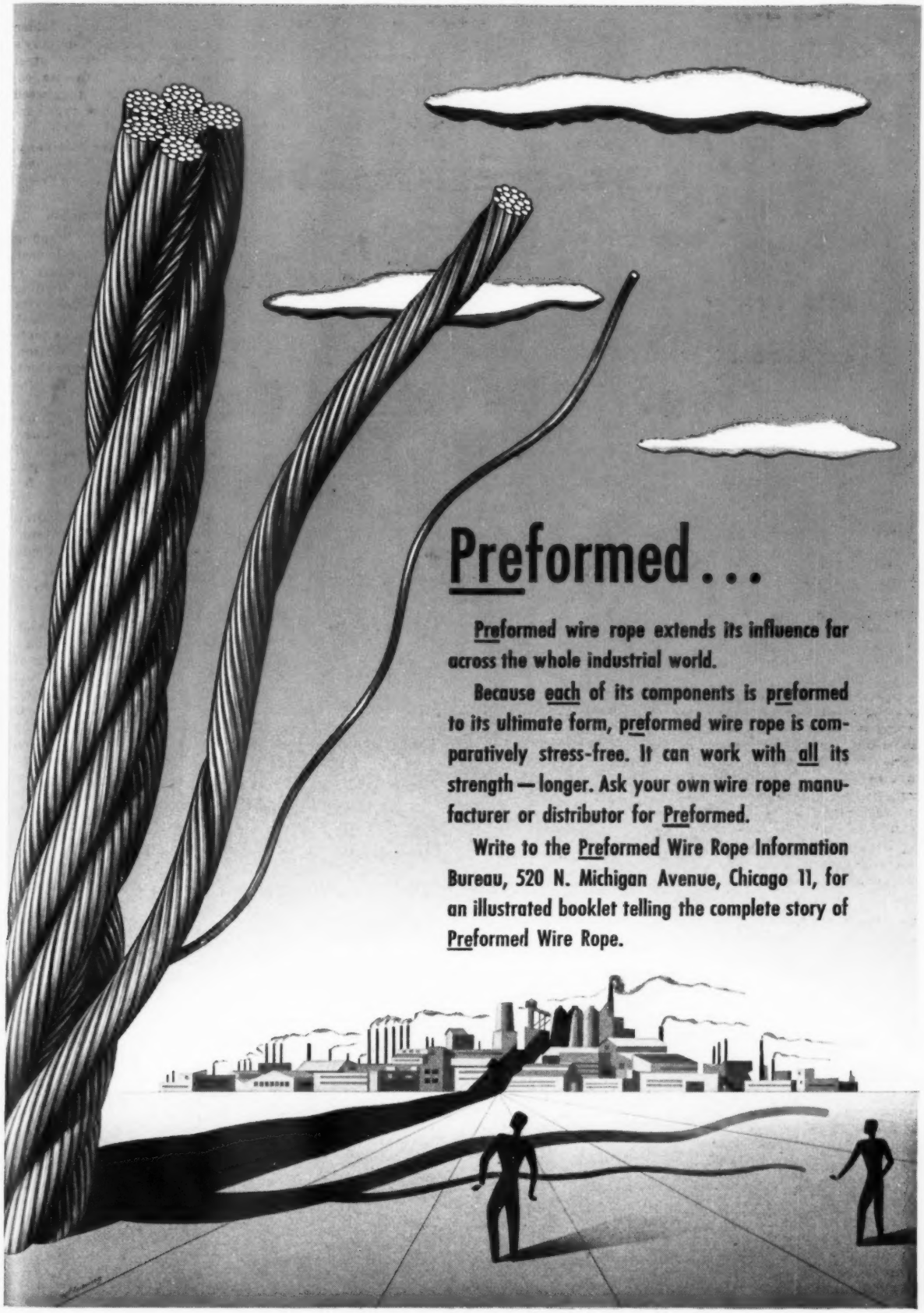
Where to Get: The Gorman-Rupp Company, Mansfield, Ohio. Ask for Bulletin No. 7LW-13 (Free).

Title: "Caterpillar Scrapers at Work"

Subject: Devoted exclusively to the problems of earthmoving, this 16-page booklet pictorially and editorially describes the loading, hauling, and spreading jobs done by the "Caterpillar" No. 60, 70, and 80 scrapers. The publication should prove of interest to all contractors faced with earth-moving problems.

Where to Get: Caterpillar Tractor Company, Peoria 8, Illinois. Ask for Form 10748 (Free).





Preformed...

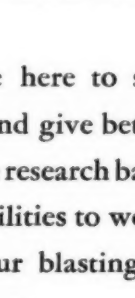
Preformed wire rope extends its influence far across the whole industrial world.

Because each of its components is preformed to its ultimate form, preformed wire rope is comparatively stress-free. It can work with all its strength — longer. Ask your own wire rope manufacturer or distributor for Preformed.

Write to the Preformed Wire Rope Information Bureau, 520 N. Michigan Avenue, Chicago 11, for an illustrated booklet telling the complete story of Preformed Wire Rope.

A STATEMENT ABOUT

Blasting with Short-Delay Electric Blasting Caps



The widespread interest in blasting with short-period delay electric blasting caps is justified by the improved results accomplished by this new method.

These caps are here to stay, because they reduce vibration and give better fragmentation.

Hercules has the research background, trained personnel, and facilities to work out the correct procedure for your blasting with short-delay electric blasting caps.

HERCULES POWDER COMPANY

INCORPORATED

972 King Street, Wilmington 99, Del.

XR8-4